

Country=Australia SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	51	3.9	50	5.6	52	5.0
I06	No	USING CHAIN RULE	63	3.2	63	3.6	63	4.2
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	77	4.8	71	6.4	84	5.5
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	35	5.1	38	5.8	31	8.1
J14	No	INTEGRAL OF FUNCTION	67	5.5	51	6.0	87	4.1
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	54	5.3	59	7.0	47	7.4
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	7	2.2	10	3.8	3	1.5
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	46	4.1	48	6.1	42	6.8
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	73	4.2	77	4.1	67	8.1
K04	Yes	LIMIT OF A FUNCTION	24	3.8	23	5.0	25	7.3
K05	Yes	DERIVATIVES	52	4.0	49	5.5	56	7.3
K06	Yes	SOLVING AN INTEGRAL	66	4.3	66	6.1	66	7.2
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	50	5.0	53	5.8	46	7.3
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	54	5.4	58	6.6	50	8.3
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	63	6.4	69	7.8	55	6.7
L07	Yes	GRAPH OF $y=f(x)$	35	3.4	41	5.5	26	4.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Australia SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	58	3.1	62	4.0	53	3.9
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	63	3.2	63	3.4	62	4.6
I09	No	INTEGER COORDINATES OF FUNCTION	50	4.5	52	4.5	48	6.6
J07	No	EQUATION OF PERPENDICULAR LINE	54	5.7	48	7.7	61	6.7
J08	No	DIFFERENCE OF TWO VECTORS	68	4.3	70	6.4	65	6.6
J09	No	EQUATION REPRESENTING SET OF POINTS	30	5.5	39	6.8	18	6.2
J10	No	VALUE OF VECTOR IN TRIANGLE	47	4.7	46	4.9	47	7.6
J11	No	SHAPE CREATED BY ROTATING LINE	59	4.5	65	7.2	52	7.1
J16A	No	TRIANGLE ABC/REFLECTION	63	5.4	63	8.7	62	6.5
J16B	No	TRIANGLE ABC/ROTATION	26	4.4	25	6.0	28	7.2
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	58	6.3	49	7.7	69	7.7
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	46	4.1	39	4.6	54	6.7
K08	Yes	CONIC REPRESENTED BY AN EQUATION	14	3.6	11	3.9	17	5.6
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	52	4.9	52	7.0	51	5.6
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	17	3.5	19	4.1	13	4.7
K12	Yes	TRANSLATION OF COORDINATES	34	3.9	31	4.6	39	5.4
K14	Yes	LENGTH OF STRING AROUND ROD	14	3.1	14	3.4	13	5.4
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	41	5.5	37	7.2	45	7.1
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	53	3.8	60	6.1	46	6.9
L09	Yes	TRANSFORMATION OF A RECTANGLE	58	4.6	63	6.1	52	5.6
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	69	6.1	72	6.7	64	8.6
L13	Yes	ANGLE BETWEEN TWO VECTORS	35	5.2	41	6.7	28	5.9
L17	Yes	EQUATION FOR CIRCLE	21	4.9	24	6.1	18	7.4
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	58	6.1	62	7.1	55	7.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Australia SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	60	4.9	61	5.1	58	7.0
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	68	2.5	66	2.7	70	3.9
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	65	3.4	70	3.2	60	4.7
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	63	5.5	54	5.7	74	7.0
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	42	5.5	41	5.8	44	9.6
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	53	6.0	48	5.2	61	8.9
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	50	5.6	54	5.7	46	9.9
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	79	4.6	83	6.2	72	6.7
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	54	4.5	57	6.5	50	6.8
K13	Yes	GROWTH OF BACTERIA	34	5.2	29	5.5	40	7.0
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	19	3.7	25	6.1	12	4.6
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	39	5.2	42	5.2	36	7.1
L01	Yes	VALUES OF X FOR AN INEQUALITY	68	5.3	68	6.9	70	5.4
L02	Yes	SOLVE AN EQUATION USING BASE b	68	3.5	76	5.0	57	6.8
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	56	5.7	56	6.5	56	6.4
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	70	4.8	68	7.9	73	7.1
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	20	5.7	23	8.0	15	6.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Australia SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	47	2.8	50	3.7	44	3.2
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	79	5.5	91	3.1	62	8.5
J13	No	OVERALL AVERAGE TEST SCORE	59	5.6	63	5.2	53	9.3
K11	Yes	PROBABILITY OF NUMBER ON A CARD	76	4.4	76	5.0	76	7.1
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	45	5.6	48	7.6	42	6.5
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	75	4.1	79	5.8	71	5.8
L15A	Yes	CRICKETS/LINE OF BEST FIT	60	6.4	60	7.6	60	8.4
L15B	Yes	CRICKETS/AIR TEMPERATURE	85	3.7	86	5.2	84	3.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Australia SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	65	2.8	68	3.0	62	3.6
J18	No	STEPS FOR MATHEMATICAL INDUCTION	36	7.2	25	6.9	51	10.8
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	78	3.8	79	4.4	78	5.9

REL: Release Status (Yes= Item in Released Item Set)

Country=Austria SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	32	3.2	36	4.9	29	3.5
I06	No	USING CHAIN RULE	45	3.5	53	4.0	39	4.1
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	45	5.5	64	7.3	33	5.9
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	34	3.3	43	5.4	30	4.7
J14	No	INTEGRAL OF FUNCTION	45	5.5	61	7.8	35	6.4
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	30	3.9	47	5.2	19	4.4
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	6	1.9	11	4.2	2	1.7
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	20	3.4	31	6.9	11	3.7
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	57	3.8	58	6.8	56	5.0
K04	Yes	LIMIT OF A FUNCTION	12	2.5	10	3.5	12	3.3
K05	Yes	DERIVATIVES	42	4.2	53	6.6	34	4.8
K06	Yes	SOLVING AN INTEGRAL	47	4.8	60	6.7	38	5.4
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	14	2.4	21	4.7	10	3.3
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	19	3.4	38	6.9	11	3.1
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	12	2.6	20	5.6	8	2.1
L07	Yes	GRAPH OF $y=f(x)$	19	3.0	36	6.6	11	2.7

REL: Release Status (Yes= Item in Released Item Set)

Country=Austria SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	51	3.3	68	4.2	42	3.8
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	70	2.3	76	3.4	66	3.1
I09	No	INTEGER COORDINATES OF FUNCTION	57	2.6	65	3.3	52	3.5
J07	No	EQUATION OF PERPENDICULAR LINE	29	3.9	39	5.9	23	4.7
J08	No	DIFFERENCE OF TWO VECTORS	59	4.3	64	6.0	55	6.1
J09	No	EQUATION REPRESENTING SET OF POINTS	19	2.7	24	5.5	16	3.0
J10	No	VALUE OF VECTOR IN TRIANGLE	22	3.5	28	6.5	18	4.1
J11	No	SHAPE CREATED BY ROTATING LINE	77	3.4	84	5.5	73	4.4
J16A	No	TRIANGLE ABC/REFLECTION	72	4.5	82	5.1	64	6.3
J16B	No	TRIANGLE ABC/ROTATION	19	3.4	38	5.6	8	2.9
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	34	4.3	43	5.1	28	6.1
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	52	4.2	57	7.4	50	4.9
K08	Yes	CONIC REPRESENTED BY AN EQUATION	30	4.2	36	7.7	26	4.5
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	44	4.1	41	6.8	48	5.1
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	19	3.2	19	4.9	19	4.0
K12	Yes	TRANSLATION OF COORDINATES	50	4.8	64	7.7	40	4.9
K14	Yes	LENGTH OF STRING AROUND ROD	9	2.6	17	5.6	3	2.4
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	18	3.6	19	6.4	18	4.0
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	41	3.6	44	6.2	40	4.8
L09	Yes	TRANSFORMATION OF A RECTANGLE	50	4.1	60	6.5	45	4.9
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	66	3.9	76	5.1	62	5.2
L13	Yes	ANGLE BETWEEN TWO VECTORS	24	3.5	41	6.7	18	3.8
L17	Yes	EQUATION FOR CIRCLE	4	1.7	7	3.8	3	1.9
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	44	3.9	63	6.5	37	4.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Austria SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	28	3.4	43	4.1	19	3.8
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	38	2.7	48	3.5	31	3.2
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	49	2.6	57	3.8	44	3.2
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	28	3.9	33	5.6	26	5.5
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	25	3.2	31	5.1	22	4.4
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	42	4.0	54	5.3	35	5.3
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	27	3.7	29	6.2	27	4.9
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	73	4.1	84	5.2	64	5.3
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	9	2.3	10	3.8	8	2.6
K13	Yes	GROWTH OF BACTERIA	26	3.7	30	6.1	23	4.4
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	1	0.4	1	1.1	.	.
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	18	2.9	27	5.6	12	3.3
L01	Yes	VALUES OF X FOR AN INEQUALITY	43	4.1	54	6.0	39	4.3
L02	Yes	SOLVE AN EQUATION USING BASE b	48	4.3	48	6.6	47	5.1
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	31	3.8	39	5.6	27	4.5
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	40	3.7	43	7.5	39	4.5
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	3	1.4	7	3.3	2	1.5

REL: Release Status (Yes= Item in Released Item Set)

Country=Austria SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	34	2.3	42	2.9	28	2.7
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	88	2.4	92	3.1	86	3.2
J13	No	OVERALL AVERAGE TEST SCORE	44	5.0	54	9.2	38	6.1
K11	Yes	PROBABILITY OF NUMBER ON A CARD	37	4.4	33	6.0	38	5.7
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	32	4.1	33	6.7	31	4.8
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	40	4.8	58	6.9	33	5.8
L15A	Yes	CRICKETS/LINE OF BEST FIT	65	4.1	75	6.0	61	5.4
L15B	Yes	CRICKETS/AIR TEMPERATURE	62	4.4	73	6.0	58	5.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Austria SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	47	2.6	62	3.4	38	3.0
J18	No	STEPS FOR MATHEMATICAL INDUCTION	2	1.2	3	2.5	1	1.3
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	64	4.0	66	5.7	61	5.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Canada SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	59	1.7	63	2.5	54	1.9
I06	No	USING CHAIN RULE	52	1.2	56	1.9	47	2.0
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	53	2.8	53	3.2	53	5.1
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	34	2.4	41	3.2	28	4.0
J14	No	INTEGRAL OF FUNCTION	38	3.0	43	3.9	33	4.1
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	61	3.2	68	4.0	53	5.3
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	10	2.5	14	4.0	5	1.8
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	27	2.7	36	3.8	17	3.5
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	76	2.0	79	3.1	72	4.0
K04	Yes	LIMIT OF A FUNCTION	36	2.5	40	4.0	31	3.8
K05	Yes	DERIVATIVES	47	3.1	49	3.8	45	4.9
K06	Yes	SOLVING AN INTEGRAL	44	1.9	49	3.4	38	3.9
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	28	2.9	31	3.9	25	4.0
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	53	2.4	58	3.6	48	3.2
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	53	2.5	56	4.5	49	3.7
L07	Yes	GRAPH OF $y=f(x)$	28	2.8	28	4.4	29	5.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Canada SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	68	2.0	73	2.1	61	2.5
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	72	1.4	72	1.9	72	1.7
I09	No	INTEGER COORDINATES OF FUNCTION	48	1.8	54	2.6	41	2.0
J07	No	EQUATION OF PERPENDICULAR LINE	51	2.6	53	3.7	48	4.6
J08	No	DIFFERENCE OF TWO VECTORS	66	3.3	67	3.3	65	5.1
J09	No	EQUATION REPRESENTING SET OF POINTS	22	2.4	26	3.9	17	2.7
J10	No	VALUE OF VECTOR IN TRIANGLE	44	2.9	49	4.5	40	4.0
J11	No	SHAPE CREATED BY ROTATING LINE	61	2.2	68	3.4	54	4.5
J16A	No	TRIANGLE ABC/REFLECTION	65	2.3	69	3.6	60	3.3
J16B	No	TRIANGLE ABC/ROTATION	25	2.7	38	4.7	11	1.9
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	29	2.2	30	3.2	28	4.0
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	52	2.0	50	3.8	54	3.0
K08	Yes	CONIC REPRESENTED BY AN EQUATION	39	2.6	39	3.8	39	3.2
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	49	2.6	54	2.8	44	4.4
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	15	2.0	12	2.2	19	3.1
K12	Yes	TRANSLATION OF COORDINATES	57	2.7	58	3.7	57	3.0
K14	Yes	LENGTH OF STRING AROUND ROD	12	1.6	17	2.7	7	2.3
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	34	3.1	34	4.0	35	3.3
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	49	3.5	51	3.9	46	5.0
L09	Yes	TRANSFORMATION OF A RECTANGLE	63	2.2	62	3.0	64	3.6
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	65	3.1	68	4.0	61	3.8
L13	Yes	ANGLE BETWEEN TWO VECTORS	32	3.3	38	4.2	25	3.8
L17	Yes	EQUATION FOR CIRCLE	18	2.2	20	3.7	15	2.5
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	59	3.0	58	3.7	59	3.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Canada SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	70	1.4	74	2.0	65	2.0
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	55	1.4	57	1.8	53	2.3
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	67	1.2	69	2.1	65	1.8
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	61	2.6	63	4.4	58	4.3
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	34	2.9	39	4.4	29	3.7
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	54	3.1	58	3.6	50	3.7
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	50	2.8	54	3.4	46	3.7
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	88	1.5	90	1.5	86	2.6
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	30	3.2	32	3.5	26	4.5
K13	Yes	GROWTH OF BACTERIA	35	2.9	43	5.0	26	3.4
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	4	1.0	4	1.1	5	1.6
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	45	2.6	53	5.0	36	3.7
L01	Yes	VALUES OF X FOR AN INEQUALITY	68	2.4	67	3.9	69	4.2
L02	Yes	SOLVE AN EQUATION USING BASE b	70	2.8	74	4.5	65	5.1
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	46	3.8	43	4.7	51	4.3
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	50	2.7	51	3.6	48	4.1
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	12	1.9	15	2.5	8	2.5

REL: Release Status (Yes= Item in Released Item Set)

Country=Canada SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	41	2.8	46	3.1	35	3.2
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	88	1.6	87	2.9	89	2.0
J13	No	OVERALL AVERAGE TEST SCORE	60	3.2	72	3.5	46	4.3
K11	Yes	PROBABILITY OF NUMBER ON A CARD	61	2.8	66	3.4	55	4.5
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	27	2.2	29	3.2	26	3.2
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	59	2.8	60	4.5	57	4.0
L15A	Yes	CRICKETS/LINE OF BEST FIT	57	2.9	62	4.1	52	4.2
L15B	Yes	CRICKETS/AIR TEMPERATURE	72	2.5	73	4.2	71	3.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Canada SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	66	1.3	72	1.8	60	1.7
J18	No	STEPS FOR MATHEMATICAL INDUCTION	8	1.6	9	2.0	8	2.3
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	70	2.8	69	3.5	72	4.7

REL: Release Status (Yes= Item in Released Item Set)

Country=Cyprus SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	78	2.0	81	2.6	74	3.3
I06	No	USING CHAIN RULE	77	2.3	75	2.2	80	3.9
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	92	1.9	90	3.4	97	2.6
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	36	4.3	44	4.6	26	7.2
J14	No	INTEGRAL OF FUNCTION	80	3.1	82	4.0	79	7.1
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	54	4.1	49	5.8	60	5.9
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	22	4.1	26	5.4	19	5.2
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	84	4.6	84	5.2	83	6.1
K04	Yes	LIMIT OF A FUNCTION	36	4.5	37	6.5	32	6.2
K05	Yes	DERIVATIVES	36	5.0	40	7.7	30	6.2
K06	Yes	SOLVING AN INTEGRAL	56	4.9	51	5.8	62	8.4
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	34	5.6	34	6.3	31	6.6
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	79	4.0	77	5.0	83	5.7
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	49	5.8	49	5.3	51	9.9
L07	Yes	GRAPH OF $y=f(x)$	51	4.3	51	5.7	50	7.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Cyprus SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	71	1.9	74	2.7	67	3.8
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	82	1.4	79	2.3	89	2.3
I09	No	INTEGER COORDINATES OF FUNCTION	63	1.8	65	2.9	61	3.6
J07	No	EQUATION OF PERPENDICULAR LINE	64	5.2	65	6.7	61	6.0
J08	No	DIFFERENCE OF TWO VECTORS	61	5.0	61	5.8	59	10.0
J09	No	EQUATION REPRESENTING SET OF POINTS	34	4.7	38	6.5	27	8.0
J10	No	VALUE OF VECTOR IN TRIANGLE	55	4.8	61	6.2	48	5.9
J11	No	SHAPE CREATED BY ROTATING LINE	75	5.3	72	8.0	80	5.3
J16A	No	TRIANGLE ABC/REFLECTION	62	4.1	62	5.2	63	6.9
J16B	No	TRIANGLE ABC/ROTATION	10	2.4	12	2.3	8	3.7
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	52	5.2	49	6.4	53	10.2
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	51	4.3	54	7.0	47	7.3
K08	Yes	CONIC REPRESENTED BY AN EQUATION	51	4.5	57	7.3	43	6.6
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	54	5.6	60	7.5	46	9.8
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	20	3.7	18	4.6	23	5.6
K12	Yes	TRANSLATION OF COORDINATES	24	3.9	28	4.6	13	4.6
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	35	3.8	38	4.9	30	6.8
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	48	5.5	43	6.4	57	7.5
L09	Yes	TRANSFORMATION OF A RECTANGLE	30	4.0	32	5.3	25	6.7
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	61	4.1	71	4.9	44	7.4
L13	Yes	ANGLE BETWEEN TWO VECTORS	27	4.1	30	4.4	24	7.1
L17	Yes	EQUATION FOR CIRCLE	30	4.3	28	5.4	34	9.0
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	55	4.7	49	5.0	68	8.5

REL: Release Status (Yes= Item in Released Item Set)

Country=Cyprus SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	74	2.0	76	1.9	73	3.7
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	57	2.8	60	2.9	51	4.9
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	60	2.8	61	2.6	59	4.8
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	56	3.2	52	4.1	60	9.4
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	65	4.8	72	5.9	59	8.3
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	32	4.7	34	7.8	26	7.6
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	95	1.8	97	2.0	92	3.7
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	41	5.6	42	8.1	37	6.0
K13	Yes	GROWTH OF BACTERIA	15	2.8	21	5.5	7	3.6
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	20	3.5	22	3.9	15	5.6
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	13	2.6	17	3.4	5	3.4
L01	Yes	VALUES OF X FOR AN INEQUALITY	81	3.4	80	3.2	81	5.7
L02	Yes	SOLVE AN EQUATION USING BASE b	72	3.2	72	3.7	72	8.2
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	52	4.1	59	5.1	39	8.5
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	63	4.7	67	6.0	57	9.2
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	22	4.7	25	5.6	18	6.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Cyprus SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	26	2.1	30	3.9	21	3.5
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	79	3.3	77	5.1	82	4.6
J13	No	OVERALL AVERAGE TEST SCORE	49	4.4	55	5.4	40	8.5
K11	Yes	PROBABILITY OF NUMBER ON A CARD	35	5.4	39	6.4	29	6.8
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	33	4.7	30	5.2	37	9.2
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	41	4.7	39	4.8	42	9.0
L15A	Yes	CRICKETS/LINE OF BEST FIT	38	3.7	51	4.8	13	5.6
L15B	Yes	CRICKETS/AIR TEMPERATURE	61	4.4	68	4.8	48	7.7

REL: Release Status (Yes= Item in Released Item Set)

Country=Cyprus SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	48	2.2	51	2.9	44	2.9
J18	No	STEPS FOR MATHEMATICAL INDUCTION	22	3.7	21	5.1	23	7.6
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	80	3.8	81	4.9	78	7.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Czech Republic SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	49	3.9	60	3.3	42	4.8
I06	No	USING CHAIN RULE	31	3.0	37	4.1	26	2.5
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	40	3.9	47	6.3	35	3.9
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	36	4.1	45	5.3	30	4.7
J14	No	INTEGRAL OF FUNCTION	37	5.0	43	6.1	33	5.6
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	48	4.5	56	5.8	41	5.3
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	6	2.2	10	4.0	2	1.3
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	17	3.2	35	5.8	3	1.6
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	63	3.8	56	5.4	68	4.7
K04	Yes	LIMIT OF A FUNCTION	25	3.3	33	4.7	18	3.8
K05	Yes	DERIVATIVES	39	3.5	47	5.2	32	5.0
K06	Yes	SOLVING AN INTEGRAL	42	4.2	49	5.0	38	6.8
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	10	1.9	19	3.3	4	1.7
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	39	3.7	56	4.3	26	4.2
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	9	2.4	13	4.8	5	1.7
L07	Yes	GRAPH OF $y=f(x)$	25	4.0	32	6.8	19	3.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Czech Republic SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	42	2.1	53	2.9	34	2.0
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	80	2.3	86	2.0	76	3.1
I09	No	INTEGER COORDINATES OF FUNCTION	67	2.5	78	2.0	59	2.9
J07	No	EQUATION OF PERPENDICULAR LINE	46	5.0	58	5.7	38	5.5
J08	No	DIFFERENCE OF TWO VECTORS	69	3.0	77	3.8	64	4.0
J09	No	EQUATION REPRESENTING SET OF POINTS	12	2.2	18	4.0	8	2.2
J10	No	VALUE OF VECTOR IN TRIANGLE	29	4.5	30	4.7	28	7.1
J11	No	SHAPE CREATED BY ROTATING LINE	70	2.9	84	2.9	59	3.9
J16A	No	TRIANGLE ABC/REFLECTION	80	2.4	82	5.3	78	3.0
J16B	No	TRIANGLE ABC/ROTATION	23	3.8	31	4.8	18	4.0
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	28	2.5	33	5.3	24	3.5
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	48	3.5	55	5.3	42	4.3
K08	Yes	CONIC REPRESENTED BY AN EQUATION	32	3.7	38	5.3	27	4.2
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	38	3.5	53	5.0	27	4.6
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	33	4.6	34	4.3	33	6.6
K12	Yes	TRANSLATION OF COORDINATES	55	4.1	60	5.0	52	6.0
K14	Yes	LENGTH OF STRING AROUND ROD	8	2.0	15	3.5	3	1.5
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	34	4.1	45	5.5	26	4.9
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	49	3.2	52	7.6	46	4.8
L09	Yes	TRANSFORMATION OF A RECTANGLE	54	5.0	62	7.7	47	4.9
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	64	3.7	75	4.5	56	4.8
L13	Yes	ANGLE BETWEEN TWO VECTORS	21	4.0	31	6.7	13	3.2
L17	Yes	EQUATION FOR CIRCLE	15	2.6	23	5.1	9	2.4
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	51	3.6	61	3.7	43	4.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Czech Republic SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	20	3.0	31	3.8	13	2.3
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	51	3.8	66	3.7	40	4.2
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	65	2.0	76	2.3	57	2.4
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	59	4.4	68	6.4	52	4.1
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	40	3.7	46	6.1	36	3.7
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	56	5.7	64	5.8	50	6.5
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	28	2.8	35	5.6	22	4.5
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	81	3.1	90	3.0	75	4.5
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	17	3.5	24	5.0	13	3.5
K13	Yes	GROWTH OF BACTERIA	24	3.5	40	4.2	12	2.9
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	13	3.1	22	4.9	7	1.7
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	39	4.0	52	5.4	29	4.5
L01	Yes	VALUES OF X FOR AN INEQUALITY	84	4.4	86	5.2	83	4.7
L02	Yes	SOLVE AN EQUATION USING BASE b	51	3.9	60	5.1	45	4.4
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	35	3.9	42	6.4	30	4.0
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	42	3.5	56	4.7	31	4.3
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	20	3.5	25	5.2	16	3.7

REL: Release Status (Yes= Item in Released Item Set)

Country=Czech Republic SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	45	2.3	56	2.9	38	2.7
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	82	2.9	85	3.9	80	3.4
J13	No	OVERALL AVERAGE TEST SCORE	42	3.8	48	6.2	38	5.7
K11	Yes	PROBABILITY OF NUMBER ON A CARD	43	3.6	56	4.3	33	4.9
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	22	3.1	33	5.3	14	2.9
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	33	3.6	54	5.6	16	3.1
L15A	Yes	CRICKETS/LINE OF BEST FIT	34	4.1	37	6.4	31	4.5
L15B	Yes	CRICKETS/AIR TEMPERATURE	46	3.5	51	4.4	42	4.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Czech Republic SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	57	2.3	69	3.2	49	2.6
J18	No	STEPS FOR MATHEMATICAL INDUCTION	16	3.6	24	5.8	9	2.9
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	84	2.7	88	3.3	81	3.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Denmark SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	59	1.7	61	2.2	56	2.5
I06	No	USING CHAIN RULE	32	1.6	34	2.2	29	2.3
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	53	2.8	55	3.4	53	4.6
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	35	2.6	36	3.4	32	4.3
J14	No	INTEGRAL OF FUNCTION	66	2.3	66	3.2	67	3.5
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	55	2.6	56	3.7	52	4.8
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	27	2.4	30	3.4	20	3.7
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	36	2.8	41	3.6	27	5.1
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	65	2.6	65	3.7	65	3.4
K04	Yes	LIMIT OF A FUNCTION	29	2.9	31	4.0	28	4.5
K05	Yes	DERIVATIVES	49	3.0	52	3.7	44	4.1
K06	Yes	SOLVING AN INTEGRAL	81	2.4	83	3.2	75	4.0
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	48	2.9	54	3.7	38	4.8
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	32	3.1	36	4.1	25	4.5
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	38	2.8	40	3.4	35	4.6
L07	Yes	GRAPH OF $y=f(x)$	39	2.9	41	3.2	33	5.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Denmark SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	77	1.3	78	1.4	75	2.5
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	76	1.1	74	1.5	78	2.0
I09	No	INTEGER COORDINATES OF FUNCTION	72	1.5	71	2.1	73	2.6
J07	No	EQUATION OF PERPENDICULAR LINE	55	3.6	58	4.0	51	5.9
J08	No	DIFFERENCE OF TWO VECTORS	78	2.5	76	3.5	82	3.4
J09	No	EQUATION REPRESENTING SET OF POINTS	18	2.2	20	2.9	11	2.9
J10	No	VALUE OF VECTOR IN TRIANGLE	34	3.2	36	4.1	29	4.1
J11	No	SHAPE CREATED BY ROTATING LINE	89	1.5	90	1.9	87	2.4
J16A	No	TRIANGLE ABC/REFLECTION	81	2.4	79	3.1	85	3.3
J16B	No	TRIANGLE ABC/ROTATION	31	2.9	34	3.5	26	4.0
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	23	2.4	25	3.6	19	3.0
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	71	2.5	70	3.5	70	3.5
K08	Yes	CONIC REPRESENTED BY AN EQUATION	14	2.1	15	2.9	12	3.6
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	47	2.9	48	3.5	45	4.7
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	18	2.1	20	3.1	15	2.9
K12	Yes	TRANSLATION OF COORDINATES	74	3.2	74	3.6	77	4.6
K14	Yes	LENGTH OF STRING AROUND ROD	11	2.1	14	2.8	7	2.2
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	16	2.0	17	2.8	15	2.9
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	63	2.8	66	3.6	59	4.7
L09	Yes	TRANSFORMATION OF A RECTANGLE	70	2.6	71	3.4	68	4.5
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	79	2.5	80	3.2	78	4.2
L13	Yes	ANGLE BETWEEN TWO VECTORS	42	2.7	45	3.5	35	3.7
L17	Yes	EQUATION FOR CIRCLE	27	2.7	24	3.3	30	5.5
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	56	3.1	58	4.0	54	4.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Denmark SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	64	1.9	63	2.1	66	3.1
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	83	1.1	83	1.5	82	1.9
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	71	1.4	70	1.5	72	2.2
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	39	2.3	42	2.8	34	4.9
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	21	2.6	20	2.7	23	4.4
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	59	2.9	62	3.9	55	3.4
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	18	2.2	18	2.3	16	4.1
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	90	1.4	90	1.6	91	2.6
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	28	2.1	30	3.2	25	4.0
K13	Yes	GROWTH OF BACTERIA	44	2.9	50	3.7	34	5.0
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	2	0.9	2	1.1	2	1.6
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	42	2.8	42	4.4	40	3.9
L01	Yes	VALUES OF X FOR AN INEQUALITY	78	2.4	76	3.2	81	3.5
L02	Yes	SOLVE AN EQUATION USING BASE b	62	3.3	67	3.6	54	4.8
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	60	2.7	64	3.4	54	4.3
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	39	2.9	44	4.0	32	4.5
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	9	1.7	10	2.2	8	2.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Denmark SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	53	1.8	54	2.2	48	3.0
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	86	2.0	85	2.6	87	3.5
J13	No	OVERALL AVERAGE TEST SCORE	72	2.7	77	3.7	62	4.0
K11	Yes	PROBABILITY OF NUMBER ON A CARD	67	2.8	72	3.8	62	4.7
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	28	2.3	32	3.1	20	3.8
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	67	2.9	74	3.3	55	4.6
L15A	Yes	CRICKETS/LINE OF BEST FIT	73	2.3	76	3.2	67	3.7
L15B	Yes	CRICKETS/AIR TEMPERATURE	76	2.5	75	3.1	79	3.7

REL: Release Status (Yes= Item in Released Item Set)

Country=Denmark SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	61	1.6	65	2.0	54	2.7
J18	No	STEPS FOR MATHEMATICAL INDUCTION	1	0.4	1	0.7	.	.
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	80	2.7	78	3.2	82	3.7

REL: Release Status (Yes= Item in Released Item Set)

Country=France SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	86	1.2	85	1.5	87	1.9
I06	No	USING CHAIN RULE	56	2.0	59	2.5	52	2.9
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	93	2.1	94	1.7	90	4.3
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	31	2.7	29	3.5	34	4.4
J14	No	INTEGRAL OF FUNCTION	77	3.0	84	3.4	65	5.2
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	83	3.2	86	4.1	78	4.5
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	7	1.8	9	2.3	5	2.4
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	44	3.4	52	4.4	28	4.5
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	77	2.3	73	3.8	83	3.5
K04	Yes	LIMIT OF A FUNCTION	46	5.0	45	6.2	49	7.1
K05	Yes	DERIVATIVES	52	2.7	56	4.1	44	5.1
K06	Yes	SOLVING AN INTEGRAL	78	3.2	78	4.0	77	4.3
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	55	4.3	57	5.3	52	5.1
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	44	4.0	50	4.3	33	7.4
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	51	4.2	50	4.5	51	6.4
L07	Yes	GRAPH OF $y=f(x)$	39	2.8	41	4.3	33	4.4

REL: Release Status (Yes= Item in Released Item Set)

Country=France SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	76	1.5	79	1.9	71	2.6
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	83	1.7	84	2.1	81	2.3
I09	No	INTEGER COORDINATES OF FUNCTION	60	1.6	63	2.1	56	2.9
J07	No	EQUATION OF PERPENDICULAR LINE	51	3.8	50	4.6	53	4.7
J08	No	DIFFERENCE OF TWO VECTORS	83	2.5	82	3.5	83	2.8
J09	No	EQUATION REPRESENTING SET OF POINTS	32	3.4	35	4.2	25	5.4
J10	No	VALUE OF VECTOR IN TRIANGLE	38	3.6	38	3.8	40	7.2
J11	No	SHAPE CREATED BY ROTATING LINE	71	2.4	72	3.3	67	3.7
J16A	No	TRIANGLE ABC/REFLECTION	88	1.4	90	1.8	84	3.2
J16B	No	TRIANGLE ABC/ROTATION	38	3.5	43	3.9	31	4.6
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	65	3.2	68	4.5	58	6.8
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	64	2.9	63	4.3	64	3.5
K08	Yes	CONIC REPRESENTED BY AN EQUATION	34	4.6	31	5.0	39	7.5
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	45	2.7	44	4.9	46	5.4
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	35	3.9	36	5.1	33	5.0
K12	Yes	TRANSLATION OF COORDINATES	75	2.5	79	3.5	68	4.9
K14	Yes	LENGTH OF STRING AROUND ROD	4	1.6	6	2.6	2	1.2
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	53	4.1	50	4.8	59	5.2
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	82	2.6	88	3.1	74	4.3
L09	Yes	TRANSFORMATION OF A RECTANGLE	63	3.2	66	4.6	58	6.6
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	75	3.0	77	3.6	71	4.6
L13	Yes	ANGLE BETWEEN TWO VECTORS	30	3.4	35	4.4	23	4.1
L17	Yes	EQUATION FOR CIRCLE	38	4.9	39	6.6	35	6.0
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	56	3.8	56	4.3	58	7.1

REL: Release Status (Yes= Item in Released Item Set)

Country=France SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	87	1.1	85	1.5	91	1.9
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	84	1.2	85	1.4	84	1.7
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	50	2.0	49	2.8	51	2.7
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	79	2.3	80	3.2	79	3.6
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	59	2.8	59	3.1	59	4.4
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	84	2.8	87	2.6	77	5.8
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	20	2.5	21	2.8	16	3.7
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	95	1.7	95	2.2	95	2.2
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	31	3.1	34	4.5	26	5.3
K13	Yes	GROWTH OF BACTERIA	25	4.2	27	5.4	21	4.9
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	60	4.3	58	5.4	65	5.2
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	43	3.7	45	4.8	40	6.2
L01	Yes	VALUES OF X FOR AN INEQUALITY	85	2.1	84	3.7	89	3.5
L02	Yes	SOLVE AN EQUATION USING BASE b	61	3.3	62	3.8	59	5.8
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	47	3.8	48	5.1	47	4.9
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	78	3.7	79	5.3	76	3.9
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	19	2.7	22	3.5	15	4.2

REL: Release Status (Yes= Item in Released Item Set)

Country=France SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	44	2.0	48	2.8	39	3.6
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	85	2.1	86	2.7	83	4.1
J13	No	OVERALL AVERAGE TEST SCORE	66	3.8	69	5.0	59	4.6
K11	Yes	PROBABILITY OF NUMBER ON A CARD	62	3.6	66	4.1	55	6.1
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	34	3.9	34	5.9	33	6.0
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	79	3.0	80	3.1	77	5.4
L15A	Yes	CRICKETS/LINE OF BEST FIT	82	2.7	84	3.4	80	3.1
L15B	Yes	CRICKETS/AIR TEMPERATURE	89	2.6	90	2.7	88	3.8

REL: Release Status (Yes= Item in Released Item Set)

Country=France SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	62	2.2	69	2.4	51	3.4
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	77	3.1	74	5.0	81	5.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Germany SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	49	1.7	53	2.5	47	2.4
I06	No	USING CHAIN RULE	36	2.2	39	2.6	34	2.3
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	52	3.6	57	5.1	47	4.2
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	29	2.9	35	4.1	25	2.8
J14	No	INTEGRAL OF FUNCTION	37	2.7	38	4.8	34	2.4
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	33	3.1	37	4.3	28	4.4
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	10	1.7	14	3.5	7	1.5
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	26	2.4	37	3.4	19	3.2
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	47	2.9	51	4.6	45	3.9
K04	Yes	LIMIT OF A FUNCTION	17	2.4	21	5.1	15	2.0
K05	Yes	DERIVATIVES	38	2.5	47	3.8	31	2.7
K06	Yes	SOLVING AN INTEGRAL	59	2.4	61	4.2	57	3.0
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	22	2.2	25	3.5	20	3.2
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	25	3.2	34	5.4	18	2.6
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	10	1.6	14	3.1	7	1.4
L07	Yes	GRAPH OF $y=f(x)$	26	2.7	30	4.4	24	3.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Germany SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	68	1.6	76	2.1	61	2.3
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	71	1.8	70	2.5	71	2.1
I09	No	INTEGER COORDINATES OF FUNCTION	66	1.6	67	2.3	66	2.2
J07	No	EQUATION OF PERPENDICULAR LINE	31	2.0	34	4.1	28	2.8
J08	No	DIFFERENCE OF TWO VECTORS	76	2.5	78	4.5	76	2.9
J09	No	EQUATION REPRESENTING SET OF POINTS	18	1.9	22	3.6	16	2.6
J10	No	VALUE OF VECTOR IN TRIANGLE	37	3.3	39	5.0	34	4.3
J11	No	SHAPE CREATED BY ROTATING LINE	79	2.1	87	2.4	75	2.7
J16A	No	TRIANGLE ABC/REFLECTION	82	1.7	84	3.1	81	2.3
J16B	No	TRIANGLE ABC/ROTATION	23	2.8	32	4.6	18	2.4
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	19	1.9	16	2.3	22	3.2
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	51	2.8	52	4.1	51	3.5
K08	Yes	CONIC REPRESENTED BY AN EQUATION	14	1.7	14	2.5	14	2.9
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	41	3.2	41	4.0	41	3.9
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	24	3.3	25	4.1	23	4.3
K12	Yes	TRANSLATION OF COORDINATES	61	2.4	63	3.3	60	3.2
K14	Yes	LENGTH OF STRING AROUND ROD	8	1.9	15	3.7	2	0.7
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	21	2.3	21	3.3	21	3.5
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	39	3.0	36	4.5	40	4.4
L09	Yes	TRANSFORMATION OF A RECTANGLE	72	2.9	75	4.9	70	3.3
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	61	2.6	62	3.5	60	3.0
L13	Yes	ANGLE BETWEEN TWO VECTORS	28	3.5	36	5.4	21	3.1
L17	Yes	EQUATION FOR CIRCLE	7	1.6	8	2.8	6	1.6
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	36	3.4	39	5.8	36	3.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Germany SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	54	2.3	58	2.7	52	2.6
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	53	2.1	60	2.1	49	2.9
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	63	2.0	68	3.4	59	2.1
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	28	3.3	33	4.9	24	3.4
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	21	1.6	18	3.1	24	2.7
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	51	2.0	55	3.6	49	3.7
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	29	2.8	31	4.7	28	2.0
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	78	2.0	83	3.5	75	2.5
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	14	1.5	20	3.4	9	2.3
K13	Yes	GROWTH OF BACTERIA	35	2.6	43	4.8	28	3.3
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	0	0.1	.	.	0	0.2
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	32	3.2	42	4.3	25	4.6
L01	Yes	VALUES OF X FOR AN INEQUALITY	56	2.6	53	3.1	58	3.5
L02	Yes	SOLVE AN EQUATION USING BASE b	40	2.4	40	4.0	41	3.0
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	36	3.3	36	5.0	36	3.7
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	35	2.8	40	5.5	31	3.0
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	10	1.5	9	2.5	11	2.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Germany SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	28	1.5	36	1.8	23	1.5
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	88	1.8	89	2.7	88	2.5
J13	No	OVERALL AVERAGE TEST SCORE	51	2.5	59	3.9	46	3.5
K11	Yes	PROBABILITY OF NUMBER ON A CARD	46	3.0	50	4.4	43	5.1
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	24	2.9	29	4.8	21	3.4
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	41	4.0	49	4.5	37	4.5
L15A	Yes	CRICKETS/LINE OF BEST FIT	61	4.4	64	4.6	59	4.7
L15B	Yes	CRICKETS/AIR TEMPERATURE	74	2.2	79	3.1	70	2.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Germany SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	55	2.1	62	2.7	50	2.3
J18	No	STEPS FOR MATHEMATICAL INDUCTION	3	0.9	5	1.9	2	0.8
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	75	1.9	68	3.3	81	2.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Greece SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	79	2.8	80	2.7	76	5.5
I06	No	USING CHAIN RULE	64	2.9	61	3.5	70	4.5
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	87	3.6	84	4.4	92	4.3
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	34	4.3	33	5.3	38	8.2
J14	No	INTEGRAL OF FUNCTION	68	4.1	66	5.4	71	8.7
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	67	4.7	72	5.1	58	8.9
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	7	2.7	9	4.2	4	3.5
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	13	3.1	16	3.7	7	5.0
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	70	4.4	74	5.1	63	9.1
K04	Yes	LIMIT OF A FUNCTION	53	5.5	52	6.0	56	10.0
K05	Yes	DERIVATIVES	37	5.2	39	5.4	33	9.2
K06	Yes	SOLVING AN INTEGRAL	56	5.2	62	6.0	45	8.8
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	41	4.9	43	6.4	39	8.2
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	61	3.9	63	4.0	56	7.8
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	33	5.1	33	5.8	32	8.2
L07	Yes	GRAPH OF $y=f(x)$	32	6.0	29	7.2	40	9.5

REL: Release Status (Yes= Item in Released Item Set)

Country=Greece SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	43	2.8	47	3.1	34	3.9
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	79	2.2	79	2.4	79	3.8
I09	No	INTEGER COORDINATES OF FUNCTION	67	2.7	67	3.3	70	4.5
J07	No	EQUATION OF PERPENDICULAR LINE	58	5.0	63	5.1	50	9.5
J08	No	DIFFERENCE OF TWO VECTORS	74	4.1	72	5.9	81	7.2
J09	No	EQUATION REPRESENTING SET OF POINTS	40	5.6	38	6.8	47	9.5
J10	No	VALUE OF VECTOR IN TRIANGLE	52	5.7	53	7.1	49	9.3
J11	No	SHAPE CREATED BY ROTATING LINE	45	4.7	48	6.0	38	8.2
J16A	No	TRIANGLE ABC/REFLECTION	61	5.0	63	6.7	58	8.1
J16B	No	TRIANGLE ABC/ROTATION	12	3.3	12	3.3	11	6.0
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	49	4.9	52	6.0	46	8.0
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	36	4.2	40	5.0	30	8.1
K08	Yes	CONIC REPRESENTED BY AN EQUATION	61	4.4	59	5.5	65	8.4
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	36	4.6	40	6.3	29	8.3
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	12	3.2	12	3.3	13	6.1
K12	Yes	TRANSLATION OF COORDINATES	43	4.4	50	5.8	29	8.0
K14	Yes	LENGTH OF STRING AROUND ROD	5	2.0	6	2.5	3	3.4
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	65	4.8	71	5.9	54	9.1
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	51	4.1	51	4.6	54	10.4
L09	Yes	TRANSFORMATION OF A RECTANGLE	46	5.1	49	6.3	39	8.8
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	52	5.3	53	6.4	52	9.1
L13	Yes	ANGLE BETWEEN TWO VECTORS	47	5.3	55	6.7	29	8.2
L17	Yes	EQUATION FOR CIRCLE	52	4.7	51	6.2	57	8.7
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	34	4.7	33	5.5	39	9.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Greece SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	86	1.7	84	2.7	90	3.0
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	68	2.6	70	2.9	66	4.7
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	51	2.9	53	3.4	45	5.3
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	82	3.5	80	4.4	88	3.9
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	65	5.4	65	4.9	64	9.5
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	52	5.7	52	6.8	50	7.4
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	84	4.6	84	5.1	83	7.2
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	30	4.7	31	5.8	29	8.9
K13	Yes	GROWTH OF BACTERIA	8	2.5	8	2.5	9	4.9
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	48	5.7	43	6.7	57	9.1
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	32	5.7	38	6.1	21	7.5
L01	Yes	VALUES OF X FOR AN INEQUALITY	83	4.0	81	5.2	88	6.8
L02	Yes	SOLVE AN EQUATION USING BASE b	79	3.7	79	4.9	82	6.8
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	65	4.4	63	5.1	68	7.4
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	46	3.7	48	5.0	40	9.0
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	58	4.9	55	5.8	68	7.5

REL: Release Status (Yes= Item in Released Item Set)

Country=Greece SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	23	2.3	24	3.1	20	3.3
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	64	6.0	67	6.6	59	9.5
J13	No	OVERALL AVERAGE TEST SCORE	30	4.8	31	6.3	27	6.5
K11	Yes	PROBABILITY OF NUMBER ON A CARD	29	4.7	34	6.0	20	7.8
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	18	3.5	20	4.9	11	5.7
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	56	5.2	58	6.0	53	8.9
L15A	Yes	CRICKETS/LINE OF BEST FIT	21	3.6	20	5.2	22	7.4
L15B	Yes	CRICKETS/AIR TEMPERATURE	35	5.4	40	7.1	21	5.5

REL: Release Status (Yes= Item in Released Item Set)

Country=Greece SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	34	2.4	39	2.7	21	4.2
J18	No	STEPS FOR MATHEMATICAL INDUCTION	79	3.5	77	4.7	86	6.5
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	73	5.1	73	6.5	74	8.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Italy SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	77	3.2	76	3.6	80	4.8
I06	No	USING CHAIN RULE	59	4.0	56	4.9	65	5.7
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	65	5.7	60	6.3	76	7.7
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	36	5.3	42	6.9	23	8.4
J14	No	INTEGRAL OF FUNCTION	61	6.5	62	8.5	61	10.3
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	57	8.1	57	8.2	57	14.2
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	11	4.0	14	5.9	6	4.6
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	41	6.8	51	9.0	22	8.8
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	55	6.4	64	7.0	42	10.1
K04	Yes	LIMIT OF A FUNCTION	21	6.4	21	6.4	22	8.8
K05	Yes	DERIVATIVES	42	7.6	46	9.1	37	11.0
K06	Yes	SOLVING AN INTEGRAL	57	6.2	51	7.7	65	8.6
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	16	4.5	15	4.7	18	6.8
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	22	6.2	25	6.2	19	10.5
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	20	4.9	16	3.5	24	9.0
L07	Yes	GRAPH OF $y=f(x)$	42	7.6	42	9.2	41	13.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Italy SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	48	5.4	51	4.0	44	9.4
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	78	3.8	76	4.6	81	4.8
I09	No	INTEGER COORDINATES OF FUNCTION	63	5.6	63	6.8	63	6.1
J07	No	EQUATION OF PERPENDICULAR LINE	45	5.4	39	7.0	59	12.2
J08	No	DIFFERENCE OF TWO VECTORS	52	5.9	51	7.2	55	8.4
J09	No	EQUATION REPRESENTING SET OF POINTS	30	4.4	27	4.9	37	14.4
J10	No	VALUE OF VECTOR IN TRIANGLE	25	6.2	26	6.8	22	7.9
J11	No	SHAPE CREATED BY ROTATING LINE	76	5.9	76	6.3	78	8.2
J16A	No	TRIANGLE ABC/REFLECTION	72	5.9	72	6.5	72	7.8
J16B	No	TRIANGLE ABC/ROTATION	28	5.8	34	8.5	15	4.9
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	31	5.3	32	7.1	29	6.9
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	55	6.7	56	7.3	53	9.8
K08	Yes	CONIC REPRESENTED BY AN EQUATION	29	7.6	22	7.1	39	13.6
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	17	4.1	24	6.1	7	4.3
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	20	6.3	19	4.8	20	10.9
K12	Yes	TRANSLATION OF COORDINATES	51	6.3	51	7.5	51	8.8
K14	Yes	LENGTH OF STRING AROUND ROD	6	3.5	10	5.5	.	.
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	35	4.5	28	6.5	45	11.6
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	46	7.3	53	8.2	38	10.7
L09	Yes	TRANSFORMATION OF A RECTANGLE	56	6.6	59	7.3	52	10.1
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	62	5.9	68	5.7	55	10.1
L13	Yes	ANGLE BETWEEN TWO VECTORS	16	3.7	22	4.9	9	6.0
L17	Yes	EQUATION FOR CIRCLE	16	5.1	16	4.0	16	8.6
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	31	5.2	38	9.1	23	8.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Italy SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	48	4.6	51	5.5	44	5.8
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	63	4.2	60	5.9	68	3.2
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	54	3.4	60	3.3	46	6.2
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	57	7.7	55	8.8	62	14.5
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	20	6.1	24	7.6	10	7.0
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	66	5.1	67	5.8	64	7.9
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	34	5.2	34	7.7	34	8.1
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	82	4.3	79	5.9	87	5.8
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	14	5.8	13	5.8	16	10.9
K13	Yes	GROWTH OF BACTERIA	21	5.7	21	6.3	22	8.8
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	1	1.0	2	1.6	.	.
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	21	6.7	28	9.1	11	7.1
L01	Yes	VALUES OF X FOR AN INEQUALITY	73	5.7	70	5.4	76	8.1
L02	Yes	SOLVE AN EQUATION USING BASE b	52	7.9	64	6.8	38	13.6
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	30	5.4	31	7.5	28	7.1
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	27	5.3	36	6.8	16	8.1
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	18	3.5	17	3.3	18	6.2

REL: Release Status (Yes= Item in Released Item Set)

Country=Italy SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	25	3.3	30	4.1	19	5.0
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	71	5.1	76	6.5	59	11.0
J13	No	OVERALL AVERAGE TEST SCORE	43	6.6	50	6.4	28	11.4
K11	Yes	PROBABILITY OF NUMBER ON A CARD	34	6.6	41	6.4	24	9.3
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	12	3.8	11	5.5	12	5.8
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	38	7.5	41	9.1	34	8.2
L15A	Yes	CRICKETS/LINE OF BEST FIT	41	6.6	38	7.6	44	11.0
L15B	Yes	CRICKETS/AIR TEMPERATURE	50	6.4	55	6.0	43	14.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Italy SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	47	4.8	47	5.3	47	7.4
J18	No	STEPS FOR MATHEMATICAL INDUCTION	0	0.3	1	0.4	.	.
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	77	5.4	77	7.2	77	7.9

REL: Release Status (Yes= Item in Released Item Set)

Country=Lithuania SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	53	1.4	62	2.1	45	2.1
I06	No	USING CHAIN RULE	65	1.6	68	1.8	62	2.8
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	60	2.6	52	3.4	67	4.7
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	43	3.6	45	4.1	42	5.8
J14	No	INTEGRAL OF FUNCTION	60	2.5	67	3.7	53	4.1
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	29	3.3	38	4.4	21	5.3
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	5	1.6	7	3.2	2	0.7
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	27	3.9	34	4.9	21	3.5
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	66	2.9	69	5.0	61	3.9
K04	Yes	LIMIT OF A FUNCTION	27	2.6	33	4.2	21	2.5
K05	Yes	DERIVATIVES	43	2.9	43	5.5	43	3.7
K06	Yes	SOLVING AN INTEGRAL	56	2.7	59	5.0	53	4.6
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	13	2.2	18	3.3	8	2.2
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	64	2.2	69	3.6	60	3.5
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	27	2.6	34	3.9	19	4.0
L07	Yes	GRAPH OF $y=f(x)$	31	2.6	38	5.4	24	3.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Lithuania SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	44	1.7	52	2.8	35	2.7
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	96	0.6	98	0.8	95	1.3
I09	No	INTEGER COORDINATES OF FUNCTION	83	1.5	87	1.8	80	2.7
J07	No	EQUATION OF PERPENDICULAR LINE	42	3.6	45	5.2	38	3.6
J08	No	DIFFERENCE OF TWO VECTORS	66	3.2	67	4.8	65	4.4
J09	No	EQUATION REPRESENTING SET OF POINTS	23	3.0	25	4.5	20	3.3
J10	No	VALUE OF VECTOR IN TRIANGLE	44	3.6	46	4.5	42	5.3
J11	No	SHAPE CREATED BY ROTATING LINE	76	2.1	77	3.6	75	2.5
J16A	No	TRIANGLE ABC/REFLECTION	61	3.6	67	4.7	56	4.6
J16B	No	TRIANGLE ABC/ROTATION	30	4.3	36	5.1	23	4.9
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	26	3.5	31	4.4	22	4.6
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	70	3.3	70	4.1	70	5.4
K08	Yes	CONIC REPRESENTED BY AN EQUATION	10	1.2	7	1.7	14	3.1
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	16	3.0	18	3.6	13	4.1
K12	Yes	TRANSLATION OF COORDINATES	53	2.9	57	4.0	48	5.4
K14	Yes	LENGTH OF STRING AROUND ROD	18	2.3	28	3.6	7	1.4
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	30	2.7	35	4.5	25	3.8
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	51	3.1	62	4.5	38	3.6
L09	Yes	TRANSFORMATION OF A RECTANGLE	61	3.5	69	4.8	53	4.1
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	70	2.9	82	3.4	58	4.9
L13	Yes	ANGLE BETWEEN TWO VECTORS	22	3.2	33	4.8	11	4.2
L17	Yes	EQUATION FOR CIRCLE	13	1.0	17	3.3	9	3.1
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	67	3.0	73	4.1	60	6.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Lithuania SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	75	1.4	79	2.0	71	1.7
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	69	1.7	76	2.2	62	2.3
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	77	1.5	80	2.0	73	2.1
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	90	2.1	90	3.3	91	2.2
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	47	3.2	48	4.9	45	4.5
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	82	2.7	82	4.2	81	4.1
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	18	2.8	19	3.9	18	4.4
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	91	2.5	92	3.2	90	2.3
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	33	2.7	39	5.0	27	3.0
K13	Yes	GROWTH OF BACTERIA	20	2.8	26	4.5	14	2.8
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	17	1.3	22	3.3	11	2.5
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	26	2.8	37	3.6	14	3.0
L01	Yes	VALUES OF X FOR AN INEQUALITY	96	0.7	95	0.5	96	1.4
L02	Yes	SOLVE AN EQUATION USING BASE b	84	2.6	89	3.2	78	3.1
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	34	2.8	43	4.2	25	5.5
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	47	2.9	57	4.5	38	3.8
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	63	3.1	69	4.2	57	4.2

REL: Release Status (Yes= Item in Released Item Set)

Country=Lithuania SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	25	1.4	26	2.4	25	2.0
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	84	2.5	90	2.4	80	4.0
J13	No	OVERALL AVERAGE TEST SCORE	36	3.5	48	4.7	25	4.6
K11	Yes	PROBABILITY OF NUMBER ON A CARD	49	3.0	57	4.3	40	3.7
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	18	2.3	30	3.1	6	2.5
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	40	2.5	55	3.2	25	4.3
L15A	Yes	CRICKETS/LINE OF BEST FIT	41	3.4	51	4.1	31	5.2
L15B	Yes	CRICKETS/AIR TEMPERATURE	47	3.2	53	3.7	41	5.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Lithuania SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	59	1.8	66	2.8	51	3.0
J18	No	STEPS FOR MATHEMATICAL INDUCTION	16	3.1	15	3.8	17	4.1
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	88	2.4	87	3.3	88	3.9

REL: Release Status (Yes= Item in Released Item Set)

Country=Russian Federation SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	68	2.8	74	2.9	62	4.0
I06	No	USING CHAIN RULE	66	3.4	71	2.4	60	4.7
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	73	4.2	75	5.0	72	6.0
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	48	4.0	46	4.6	51	5.7
J14	No	INTEGRAL OF FUNCTION	72	2.6	74	3.5	70	2.9
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	54	2.9	55	3.7	53	3.8
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	17	2.4	20	3.6	15	2.8
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	39	3.5	48	3.5	29	5.4
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	74	2.9	79	4.3	69	4.0
K04	Yes	LIMIT OF A FUNCTION	30	2.9	31	4.3	29	4.5
K05	Yes	DERIVATIVES	48	3.9	55	4.5	42	4.5
K06	Yes	SOLVING AN INTEGRAL	71	3.2	74	4.4	69	4.6
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	27	3.4	36	4.8	18	3.2
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	57	4.4	62	4.7	50	5.2
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	43	4.4	46	4.5	41	5.6
L07	Yes	GRAPH OF $y=f(x)$	43	3.8	44	5.0	42	5.7

REL: Release Status (Yes= Item in Released Item Set)

Country=Russian Federation SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	53	3.4	59	3.3	47	4.3
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	93	0.9	94	0.8	91	1.3
I09	No	INTEGER COORDINATES OF FUNCTION	84	1.5	86	1.5	82	2.2
J07	No	EQUATION OF PERPENDICULAR LINE	42	3.4	41	4.0	43	4.8
J08	No	DIFFERENCE OF TWO VECTORS	75	3.6	72	4.9	79	4.0
J09	No	EQUATION REPRESENTING SET OF POINTS	30	2.3	32	3.5	27	4.3
J10	No	VALUE OF VECTOR IN TRIANGLE	53	3.1	59	5.0	47	3.4
J11	No	SHAPE CREATED BY ROTATING LINE	83	2.7	85	3.7	81	4.0
J16A	No	TRIANGLE ABC/REFLECTION	80	2.1	81	2.7	79	2.9
J16B	No	TRIANGLE ABC/ROTATION	39	3.7	51	4.1	27	4.6
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	49	3.6	50	3.7	48	6.4
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	71	4.1	73	3.4	69	5.9
K08	Yes	CONIC REPRESENTED BY AN EQUATION	15	3.1	16	3.6	15	4.1
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	54	4.2	59	5.2	48	3.8
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	22	2.3	26	3.4	18	2.6
K12	Yes	TRANSLATION OF COORDINATES	60	4.1	66	4.1	53	5.5
K14	Yes	LENGTH OF STRING AROUND ROD	13	2.8	16	3.6	9	3.3
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	44	3.6	43	4.9	45	4.4
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	55	3.7	63	4.1	45	5.6
L09	Yes	TRANSFORMATION OF A RECTANGLE	64	3.3	69	3.6	58	4.3
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	71	2.9	78	2.9	62	5.6
L13	Yes	ANGLE BETWEEN TWO VECTORS	38	3.7	47	5.1	27	4.3
L17	Yes	EQUATION FOR CIRCLE	34	3.3	39	3.7	27	3.9
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	58	4.6	62	5.1	54	5.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Russian Federation SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	72	3.2	77	3.1	66	4.0
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	80	2.2	85	2.1	74	3.2
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	69	1.7	72	1.5	66	2.7
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	79	2.7	82	3.1	75	4.8
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	56	3.9	63	4.5	49	4.1
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	78	2.7	80	3.4	76	3.5
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	53	3.6	47	4.0	59	6.0
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	84	2.5	86	2.7	82	3.6
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	16	2.9	21	4.0	11	2.5
K13	Yes	GROWTH OF BACTERIA	23	3.2	26	4.3	20	3.7
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	31	3.7	34	5.1	28	5.4
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	26	2.9	34	4.5	18	4.2
L01	Yes	VALUES OF X FOR AN INEQUALITY	88	2.8	87	3.5	90	3.1
L02	Yes	SOLVE AN EQUATION USING BASE b	83	2.6	87	2.6	76	5.0
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	48	4.5	60	3.6	32	5.7
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	34	3.1	39	3.7	28	4.7
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	61	4.9	64	4.7	56	6.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Russian Federation SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	46	2.1	48	2.4	44	2.8
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	73	3.1	78	3.4	67	4.6
J13	No	OVERALL AVERAGE TEST SCORE	40	4.0	50	4.4	28	4.4
K11	Yes	PROBABILITY OF NUMBER ON A CARD	35	3.7	44	4.9	27	4.7
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	30	3.2	34	3.4	25	3.9
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	36	3.9	48	5.1	21	3.4
L15A	Yes	CRICKETS/LINE OF BEST FIT	39	3.1	39	3.7	39	4.4
L15B	Yes	CRICKETS/AIR TEMPERATURE	56	3.1	60	3.5	52	4.2

REL: Release Status (Yes= Item in Released Item Set)

Country=Russian Federation SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	46	2.4	54	2.6	38	3.0
J18	No	STEPS FOR MATHEMATICAL INDUCTION	29	4.0	37	4.6	21	4.3
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	69	3.1	74	3.1	62	6.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Sweden SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	44	2.7	49	3.0	33	3.2
I06	No	USING CHAIN RULE	34	2.1	34	2.7	34	3.2
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	58	4.1	55	5.5	62	5.0
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	42	3.4	38	4.2	49	5.5
J14	No	INTEGRAL OF FUNCTION	55	3.5	60	4.1	44	6.1
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	37	4.8	35	6.0	40	6.6
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	2	0.7	2	1.0	1	0.8
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	31	2.8	29	3.8	33	6.1
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	72	3.8	72	4.9	70	6.2
K04	Yes	LIMIT OF A FUNCTION	29	3.5	31	3.9	23	6.0
K05	Yes	DERIVATIVES	61	4.8	61	6.5	61	6.2
K06	Yes	SOLVING AN INTEGRAL	76	3.4	75	4.4	78	4.2
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	37	3.8	37	5.4	35	5.6
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	55	5.2	59	6.5	45	5.8
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	63	2.8	60	3.0	70	5.7
L07	Yes	GRAPH OF $y=f(x)$	48	3.4	53	4.7	36	5.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Sweden SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	72	1.9	72	2.3	71	3.3
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	74	1.9	71	2.3	80	2.4
I09	No	INTEGER COORDINATES OF FUNCTION	60	2.5	64	2.8	51	3.5
J07	No	EQUATION OF PERPENDICULAR LINE	40	5.7	41	8.0	39	5.8
J08	No	DIFFERENCE OF TWO VECTORS	64	3.3	64	4.3	63	7.4
J09	No	EQUATION REPRESENTING SET OF POINTS	29	3.7	32	5.5	22	5.7
J10	No	VALUE OF VECTOR IN TRIANGLE	17	3.2	14	3.9	23	4.2
J11	No	SHAPE CREATED BY ROTATING LINE	90	2.7	92	2.4	85	6.5
J16A	No	TRIANGLE ABC/REFLECTION	41	3.4	48	4.4	29	6.3
J16B	No	TRIANGLE ABC/ROTATION	12	3.2	15	4.4	7	3.5
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	12	2.5	12	3.1	12	3.9
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	60	2.8	60	3.4	60	6.4
K08	Yes	CONIC REPRESENTED BY AN EQUATION	19	2.9	19	4.1	17	4.0
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	43	3.9	50	5.1	25	5.0
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	26	3.5	28	4.6	20	4.8
K12	Yes	TRANSLATION OF COORDINATES	39	3.4	38	3.9	41	5.9
K14	Yes	LENGTH OF STRING AROUND ROD	24	4.0	26	5.5	17	4.3
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	41	4.4	39	5.1	46	6.7
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	45	4.5	45	5.3	44	6.3
L09	Yes	TRANSFORMATION OF A RECTANGLE	37	4.0	42	4.8	28	5.8
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	75	2.7	76	3.2	74	4.8
L13	Yes	ANGLE BETWEEN TWO VECTORS	25	3.9	25	4.5	23	5.7
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	50	3.5	52	5.4	46	6.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Sweden SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	60	2.1	59	2.7	61	3.0
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	67	2.2	68	2.8	64	3.4
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	70	2.6	71	3.6	69	3.0
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	52	3.8	51	4.8	55	5.5
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	46	3.3	42	3.9	55	5.1
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	68	4.2	74	5.3	56	6.2
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	58	3.2	60	4.1	53	6.0
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	90	5.2	89	7.0	92	3.0
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	24	3.5	26	4.8	21	5.1
K13	Yes	GROWTH OF BACTERIA	51	3.6	53	4.2	47	6.7
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	25	3.5	26	4.8	20	3.9
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	68	3.5	69	4.5	66	6.0
L01	Yes	VALUES OF X FOR AN INEQUALITY	58	3.8	56	4.8	63	6.1
L02	Yes	SOLVE AN EQUATION USING BASE b	61	3.9	59	5.1	64	5.5
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	66	3.2	66	3.6	65	5.7
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	46	3.6	49	4.3	40	5.1
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	8	2.2	9	3.0	6	2.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Sweden SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	54	1.5	59	2.4	43	2.8
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	84	4.5	82	6.2	88	3.4
J13	No	OVERALL AVERAGE TEST SCORE	67	2.6	73	3.1	55	5.5
K11	Yes	PROBABILITY OF NUMBER ON A CARD	64	4.2	62	5.8	70	5.5
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	53	3.5	60	4.2	38	4.9
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	65	3.7	62	4.6	71	6.0
L15A	Yes	CRICKETS/LINE OF BEST FIT	61	3.1	61	3.7	60	6.3
L15B	Yes	CRICKETS/AIR TEMPERATURE	83	3.1	85	3.1	80	5.9

REL: Release Status (Yes= Item in Released Item Set)

Country=Sweden SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	78	1.7	79	2.2	77	3.1
J18	No	STEPS FOR MATHEMATICAL INDUCTION	0	0.2	.	.	1	0.7
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	67	4.3	63	5.3	74	5.3

REL: Release Status (Yes= Item in Released Item Set)

Country=Switzerland SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	67	2.4	72	2.4	62	3.3
I06	No	USING CHAIN RULE	51	1.6	55	1.8	46	2.5
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	57	3.1	61	4.7	53	4.4
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	43	4.1	52	6.2	33	3.6
J14	No	INTEGRAL OF FUNCTION	54	4.3	63	6.7	43	3.4
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	55	3.6	58	5.1	52	4.3
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	16	2.0	22	3.0	9	2.8
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	60	3.5	61	5.5	57	4.0
K04	Yes	LIMIT OF A FUNCTION	28	3.1	33	4.2	22	4.3
K05	Yes	DERIVATIVES	45	4.0	56	3.6	32	5.6
K06	Yes	SOLVING AN INTEGRAL	58	3.4	65	4.9	51	5.0
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	30	3.7	38	4.6	21	4.3
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	55	3.1	64	4.4	45	6.9
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	21	2.7	24	4.1	17	3.9
L07	Yes	GRAPH OF $y=f(x)$	44	4.1	52	5.2	35	8.0

REL: Release Status (Yes= Item in Released Item Set)

Country=Switzerland SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	76	2.6	83	2.0	68	4.0
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	85	1.6	88	1.6	82	2.1
I09	No	INTEGER COORDINATES OF FUNCTION	74	1.6	75	1.8	73	2.9
J07	No	EQUATION OF PERPENDICULAR LINE	45	3.1	48	4.4	42	4.4
J08	No	DIFFERENCE OF TWO VECTORS	79	2.9	79	4.2	78	3.9
J09	No	EQUATION REPRESENTING SET OF POINTS	25	3.2	24	3.4	25	4.5
J10	No	VALUE OF VECTOR IN TRIANGLE	44	3.5	49	4.5	38	5.5
J11	No	SHAPE CREATED BY ROTATING LINE	80	2.5	85	3.0	75	4.5
J16A	No	TRIANGLE ABC/REFLECTION	82	2.9	82	4.4	82	4.2
J16B	No	TRIANGLE ABC/ROTATION	46	3.0	50	4.1	40	6.4
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	30	3.1	30	3.2	30	5.8
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	62	3.2	60	4.4	64	5.3
K08	Yes	CONIC REPRESENTED BY AN EQUATION	20	2.1	23	3.1	12	3.9
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	51	4.1	58	6.0	43	6.7
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	34	3.6	34	4.4	34	6.6
K12	Yes	TRANSLATION OF COORDINATES	76	2.9	77	4.3	74	4.9
K14	Yes	LENGTH OF STRING AROUND ROD	17	3.7	27	5.2	4	2.3
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	46	3.1	48	5.5	45	5.4
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	50	2.5	51	4.6	49	5.3
L09	Yes	TRANSFORMATION OF A RECTANGLE	82	2.6	85	4.9	79	4.6
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	74	2.6	81	4.2	68	4.4
L13	Yes	ANGLE BETWEEN TWO VECTORS	36	2.1	45	3.7	26	3.4
L17	Yes	EQUATION FOR CIRCLE	18	3.4	18	3.2	19	5.2
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	56	4.7	59	4.9	54	6.6

REL: Release Status (Yes= Item in Released Item Set)

Country=Switzerland SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	59	2.1	62	2.3	55	3.2
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	66	2.1	71	2.2	60	3.0
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	70	1.8	74	2.0	66	2.3
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	61	2.7	69	4.0	52	4.1
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	64	4.6	74	3.7	52	9.0
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	27	3.9	23	3.6	31	6.1
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	96	2.0	96	2.1	94	2.5
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	34	3.2	36	4.5	29	5.0
K13	Yes	GROWTH OF BACTERIA	26	3.6	30	4.9	19	5.2
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	12	2.3	15	2.9	8	3.8
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	40	3.4	43	4.5	36	4.7
L01	Yes	VALUES OF X FOR AN INEQUALITY	69	3.7	76	4.1	62	4.9
L02	Yes	SOLVE AN EQUATION USING BASE b	62	2.4	65	3.3	61	4.7
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	38	4.0	46	5.7	30	5.2
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	57	3.5	58	4.6	56	5.1
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	12	2.1	19	3.4	6	1.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Switzerland SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	44	2.1	51	3.8	36	2.2
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	89	2.5	90	3.7	88	3.3
J13	No	OVERALL AVERAGE TEST SCORE	75	3.6	85	3.1	65	6.3
K11	Yes	PROBABILITY OF NUMBER ON A CARD	62	3.7	68	4.0	56	6.9
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	40	3.2	48	4.9	31	4.5
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	55	5.3	63	5.4	45	8.1
L15A	Yes	CRICKETS/LINE OF BEST FIT	59	4.9	55	5.7	63	7.4
L15B	Yes	CRICKETS/AIR TEMPERATURE	69	4.2	67	5.2	71	5.0

REL: Release Status (Yes= Item in Released Item Set)

Country=Switzerland SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	68	1.2	74	1.5	61	2.5
J18	No	STEPS FOR MATHEMATICAL INDUCTION	14	2.0	16	2.7	12	3.2
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	83	3.4	80	4.6	87	4.4

REL: Release Status (Yes= Item in Released Item Set)

Country=United States SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	47	2.3	50	3.3	44	2.4
I06	No	USING CHAIN RULE	35	2.3	38	3.6	33	2.0
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	34	3.0	33	3.4	35	4.1
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	25	2.7	25	2.7	25	4.1
J14	No	INTEGRAL OF FUNCTION	45	3.3	48	4.1	41	4.5
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	46	2.7	49	3.7	43	4.0
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	8	1.2	7	1.3	8	2.0
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	16	1.6	18	2.4	15	2.5
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	56	4.6	52	8.3	61	4.0
K04	Yes	LIMIT OF A FUNCTION	26	2.9	27	5.0	25	3.4
K05	Yes	DERIVATIVES	47	4.5	48	8.3	45	3.9
K06	Yes	SOLVING AN INTEGRAL	46	4.1	54	7.1	37	3.2
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	18	3.0	19	4.4	16	3.6
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	26	2.8	30	4.7	22	2.9
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	26	2.7	27	3.9	24	2.6
L07	Yes	GRAPH OF $y=f(x)$	27	2.1	31	3.4	24	2.2

REL: Release Status (Yes= Item in Released Item Set)

Country=United States SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	46	2.0	50	3.2	43	2.5
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	62	2.5	61	3.5	62	2.7
I09	No	INTEGER COORDINATES OF FUNCTION	32	2.3	35	3.2	29	2.2
J07	No	EQUATION OF PERPENDICULAR LINE	38	2.7	36	4.0	39	3.9
J09	No	EQUATION REPRESENTING SET OF POINTS	19	2.6	21	2.8	18	3.8
J10	No	VALUE OF VECTOR IN TRIANGLE	27	3.0	28	3.5	26	4.7
J11	No	SHAPE CREATED BY ROTATING LINE	58	3.2	66	3.9	50	3.7
J16A	No	TRIANGLE ABC/REFLECTION	50	3.1	51	3.2	49	4.5
J16B	No	TRIANGLE ABC/ROTATION	11	1.7	14	2.2	7	2.1
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	21	3.0	24	3.7	19	3.7
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	47	4.6	53	7.4	39	4.0
K08	Yes	CONIC REPRESENTED BY AN EQUATION	25	2.6	26	4.8	24	2.4
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	40	4.9	51	7.8	29	3.6
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	9	1.4	9	2.1	9	1.8
K12	Yes	TRANSLATION OF COORDINATES	42	4.8	47	8.5	38	2.9
K14	Yes	LENGTH OF STRING AROUND ROD	4	0.9	6	1.9	1	0.5
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	10	1.6	8	2.5	11	2.8
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	39	3.1	40	4.4	38	3.8
L09	Yes	TRANSFORMATION OF A RECTANGLE	47	2.8	49	4.2	44	3.4
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	60	2.0	64	2.7	55	3.4
L13	Yes	ANGLE BETWEEN TWO VECTORS	15	2.0	18	2.8	11	2.2
L17	Yes	EQUATION FOR CIRCLE	7	1.1	8	1.9	6	1.2
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	40	2.8	44	4.1	36	3.3

REL: Release Status (Yes= Item in Released Item Set)

Country=United States SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	55	3.0	54	4.2	56	3.2
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	44	2.4	46	3.6	41	2.2
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	57	2.2	62	4.0	52	2.1
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	45	2.9	46	3.9	45	4.1
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	24	2.4	26	3.1	22	3.3
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	42	2.5	43	3.5	41	3.6
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	44	2.6	42	3.6	46	4.2
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	67	5.7	66	10.5	68	3.4
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	16	2.4	16	3.2	17	3.0
K13	Yes	GROWTH OF BACTERIA	24	3.1	30	5.3	18	3.7
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	2	0.7	3	1.3	1	0.8
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	27	5.4	37	9.2	16	2.7
L01	Yes	VALUES OF X FOR AN INEQUALITY	68	2.3	68	3.4	68	3.6
L02	Yes	SOLVE AN EQUATION USING BASE b	56	2.7	60	3.2	53	3.9
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	39	2.5	38	3.8	40	2.9
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	36	2.6	36	3.1	36	3.6
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	7	1.8	8	2.8	6	1.9

REL: Release Status (Yes= Item in Released Item Set)

Country=United States SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	28	1.7	30	2.7	26	2.2
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	85	1.8	87	2.6	84	2.6
J13	No	OVERALL AVERAGE TEST SCORE	41	3.3	55	4.1	29	4.1
K11	Yes	PROBABILITY OF NUMBER ON A CARD	62	3.5	70	5.3	54	4.1
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	21	2.5	27	3.8	15	2.8
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	54	3.0	57	4.8	51	3.3
L15A	Yes	CRICKETS/LINE OF BEST FIT	36	2.5	39	4.3	32	2.8
L15B	Yes	CRICKETS/AIR TEMPERATURE	47	3.5	52	5.3	43	3.6

REL: Release Status (Yes= Item in Released Item Set)

Country=United States SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	70	2.1	74	3.0	66	2.2
J18	No	STEPS FOR MATHEMATICAL INDUCTION	1	0.4	0	0.3	1	0.7
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	70	3.0	66	4.0	74	4.2

REL: Release Status (Yes= Item in Released Item Set)

Country=Slovenia SCALE=Calculus

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I04	No	LIMIT OF FUNCTION BY REDUCING POLYNOMIALS	66	2.5	65	3.7	67	3.3
I06	No	USING CHAIN RULE	45	2.9	44	4.2	46	3.9
J05	No	DERIVATIVE OF EXPONENTIAL FUNCTION	58	4.2	57	5.4	61	5.8
J06	No	RADIUS OF CYLINDER WHILE MAXIMIZING VOLUME	26	3.5	32	4.3	22	3.8
J14	No	INTEGRAL OF FUNCTION	33	4.2	37	6.0	28	4.9
J15A	No	FUNCTION/WHERE NOT CONTINUOUS	58	3.9	62	5.5	53	5.1
J15B	No	FUNCTION/WHERE NOT DIFFERENTIABLE	2	1.0	3	2.0	1	0.8
J17	No	LIMIT OF PERIMETER OF POLYGON CONTAINED IN A CIRCLE	8	2.0	15	3.4	2	1.2
K03	Yes	LINEAR ACCELERATION OF AN OBJECT	52	3.8	46	4.5	59	5.1
K04	Yes	LIMIT OF A FUNCTION	20	3.5	19	5.0	21	4.0
K05	Yes	DERIVATIVES	39	3.7	45	5.9	33	3.5
K06	Yes	SOLVING AN INTEGRAL	38	4.8	50	6.4	28	5.6
K17	Yes	EQUATION OF A FUNCTION GIVEN THE DERIVATIVE AND POINT	14	4.0	19	6.5	8	2.9
L05	Yes	SUM OF INFINITE GEOMETRIC SERIES	23	3.7	20	4.3	26	5.1
L06	Yes	CRITICAL POINT OF VELOCITY EQUATION	5	1.2	6	1.8	4	1.4
L07	Yes	GRAPH OF $y=f(x)$	25	3.6	24	4.8	26	3.8

REL: Release Status (Yes= Item in Released Item Set)

Country=Slovenia SCALE=Geometry

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I07	No	SUM OF SLOPES OF EQUILATERAL TRIANGLE	56	2.6	57	3.1	53	3.2
I08	No	LENGTH OF SEGMENT OF ISOSCELES RIGHT TRIANGLE	72	2.2	71	3.0	73	2.6
I09	No	INTEGER COORDINATES OF FUNCTION	66	2.3	69	3.0	62	2.8
J07	No	EQUATION OF PERPENDICULAR LINE	55	3.5	56	5.0	52	4.1
J08	No	DIFFERENCE OF TWO VECTORS	50	2.9	52	4.9	50	3.5
J09	No	EQUATION REPRESENTING SET OF POINTS	13	2.3	18	3.9	10	2.5
J10	No	VALUE OF VECTOR IN TRIANGLE	47	3.8	51	5.2	44	4.6
J11	No	SHAPE CREATED BY ROTATING LINE	56	3.8	60	5.1	55	4.3
J16A	No	TRIANGLE ABC/REFLECTION	71	3.4	72	4.7	69	4.4
J16B	No	TRIANGLE ABC/ROTATION	10	1.7	16	3.0	6	2.0
J19	No	PROVE THAT E IS MIDPOINT OF QUADRILATERAL	25	3.8	22	5.7	29	6.0
K07	Yes	VERTICES OF RIGHT ANGLE TRIANGLE	54	3.1	51	5.0	56	3.6
K08	Yes	CONIC REPRESENTED BY AN EQUATION	39	4.1	42	6.6	36	4.2
K09	Yes	DISTANCE BETWEEN INTERCEPTS ON A PLANE	28	3.8	33	6.6	23	2.9
K10	Yes	ANGLE INSCRIBED BY FIGURES INSIDE A SEMICIRCLE	23	2.9	19	4.0	26	3.6
K12	Yes	TRANSLATION OF COORDINATES	37	2.9	37	5.0	37	3.3
K14	Yes	LENGTH OF STRING AROUND ROD	5	1.3	7	2.4	2	1.1
K18	Yes	GEOMETRIC PROOF OF ISOSCELES TRIANGLE	20	3.9	21	6.7	19	3.9
L08	Yes	COORDINATES OF FOURTH POINT OF A RECTANGLE	39	3.2	39	4.7	38	4.1
L09	Yes	TRANSFORMATION OF A RECTANGLE	45	3.6	43	4.8	46	4.6
L12	Yes	LENGTH OF DIAGONAL IN A REGULAR HEXAGON	59	3.6	56	4.2	62	5.6
L13	Yes	ANGLE BETWEEN TWO VECTORS	20	3.0	20	3.6	21	4.3
L17	Yes	EQUATION FOR CIRCLE	15	4.2	14	4.4	16	5.3
L18	Yes	DISTANCE BETWEEN CENTERS OF TWO CIRCLES	41	4.5	46	5.6	37	5.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Slovenia SCALE=Numbers, Equations and Functions

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I01	No	COMPOSITE FUNCTION	64	3.5	66	4.8	63	4.3
I02	No	GRAPH OF FUNCTION OVER DISTINCT RANGES	57	2.8	58	3.7	57	3.2
I03	No	COMPARISON OF PREDICTIONS OF TWO FUNCTIONS	53	2.5	56	2.7	49	3.7
J01	No	EQUIVALENT FRACTIONS USING DIFFERENCE OF SQUARES	65	3.3	70	4.4	59	4.1
J02	No	CUBING A TRIGONOMETRIC FUNCTION WITH IMAGINARY NUMBERS	41	2.8	43	4.9	40	3.7
J03	No	VALUE OF X NEEDED TO MAKE FUNCTION NEGATIVE	53	3.5	55	5.0	52	4.7
J04	No	TRANSLATION OF TRIGONOMETRIC FUNCTION	45	3.4	47	5.4	42	4.4
K01	Yes	RELATIONSHIP BETWEEN TWO VARIABLES	84	2.7	88	3.1	80	2.9
K02	Yes	PERMUTATIONS OF BOOKS ON A SHELF	41	4.2	43	6.8	39	4.6
K13	Yes	GROWTH OF BACTERIA	20	2.4	26	4.1	15	2.9
K15	Yes	COMPLEX NUMBER SOLUTION OF EQUATION	15	3.9	22	6.9	9	2.9
K16	Yes	CALCULATION OF HEIGHT OF A GLACIER	24	4.1	29	6.4	19	4.7
L01	Yes	VALUES OF X FOR AN INEQUALITY	71	3.9	60	5.0	80	3.6
L02	Yes	SOLVE AN EQUATION USING BASE b	50	3.8	46	6.2	53	4.4
L03	Yes	VALUE OF CONSTANT FOR RADIOACTIVE DECAY	20	2.3	19	3.3	22	4.5
L04	Yes	CONTRIBUTIONS OF EXAMINATION QUESTION CHOICES	51	3.6	50	5.5	53	5.0
L16	Yes	SOLUTION OF REAL VALUES OF A QUADRATIC EQUATION	38	2.9	34	5.3	42	3.4

REL: Release Status (Yes= Item in Released Item Set)

Country=Slovenia SCALE=Probability & Statistics

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I05	No	NEW MEAN AND STANDARD DEVIATION	30	2.3	33	3.8	26	2.4
J12	No	GRAPH OF AVERAGE WEEKLY RAINFALL	82	2.9	83	4.5	79	3.5
J13	No	OVERALL AVERAGE TEST SCORE	31	4.0	42	4.8	20	4.5
K11	Yes	PROBABILITY OF NUMBER ON A CARD	40	3.8	41	5.8	39	4.8
L10	Yes	PROBABILITY OF AT LEAST ONE ALARM OPERATING	23	3.9	17	3.6	28	6.0
L14	Yes	PROBABILITY OF BOTH SMOKING AND DRINKING	40	3.5	41	5.3	39	4.3
L15A	Yes	CRICKETS/LINE OF BEST FIT	61	3.8	60	5.1	62	5.1
L15B	Yes	CRICKETS/AIR TEMPERATURE	74	3.0	74	4.7	74	5.1

REL: Release Status (Yes= Item in Released Item Set)

Country=Slovenia SCALE=Validation and Structure

ITEM	REL	LABEL	Overall		Boys		Girls	
			%	(se)	%	(se)	%	(se)
I10	No	FINDING NUMBER OF COUNTRY REPRESENTATIVES	48	3.1	50	4.2	45	3.6
J18	No	STEPS FOR MATHEMATICAL INDUCTION	29	4.3	27	5.4	29	5.0
L11	Yes	LOGICAL DEDUCTION FROM SERIES OF STATEMENTS	74	2.8	74	2.8	74	4.1

REL: Release Status (Yes= Item in Released Item Set)