

Mathematics

Grade 11

Scoring Protocol

2017-2018

Item 1	Option:	A	B	C	Correct	Scoring (0/1)
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L - Here is a graph. (Point to student materials.) This graph shows how many gallons of fuel each car used. How many gallons of fuel did Car 3 use: 1, 2, or 5?

1	2	5	c	
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Scoring: 0 = incorrect; 1 = correct

Item 2	Option:	A	B	C	Correct	Scoring (0/1)
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L - Here are three shapes. (Point to student materials.) Similar shapes are the same except they are different sizes. Which shapes are similar: A & B, B & C, or A & C?

A & B	B & C	A & C	a	
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Scoring: 0 = incorrect; 1 = correct

Item 3	Option:	A	B	C	Correct	Scoring (0/1)
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M - Here is a line that crosses the x-axis. (Point to student materials.) Where does this line cross the x-axis: at -1, -4, or -10?

-1	-4	-10	c	
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Scoring: 0 = incorrect; 1 = correct

Item 4	Option:	A	B	C	Correct	Scoring (0/1)
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M - Here are three rugs. (Point to student materials.) Which rug is a rectangle: A, B, or C?

A	B	C	c	
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Scoring: 0 = incorrect; 1 = correct

Item 5	Option:	A	B	C	Correct	Scoring (0/1)
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

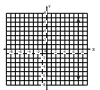
H - Here are three street signs. (Point to student materials.) Which sign is an octagon: the stop sign, bicycle sign, or the railroad sign?

stop	bicycle	railroad	a	
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Scoring: 0 = incorrect; 1 = correct

Item 6	Option:	A	B	C	Correct	Scoring (0/1)
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L - Here is a picture of a line with a positive slope. (Point to student materials.) A line with a positive slope goes up from left to right. Which line has a positive slope: A, B, or C?

			a	
A	B	C		

Scoring: 0 = incorrect; 1 = correct

Item 7	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are three hexagons: A, B, and C. (Point to student materials.) Which hexagon is equilateral, meaning that ALL its sides are the same length: A, B, or C?						
		A	B	C	b	

Scoring: 0 = incorrect; 1 = correct

Item 8	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are three shapes. (Point to student materials.) Similar shapes are the same except they are different sizes. Which shapes are similar: A & B, B & C, or A & C?						
		A & B	B & C	A & C	c	

Scoring: 0 = incorrect; 1 = correct

Item 9	Option:	A	B	C	Correct	Scoring (0/1)
L - Here is a triangle with side lengths of 5 centimeters. (Point to student materials.) The perimeter is the distance around the outside of a figure. What is the perimeter of this triangle: 12 cm, 15 cm, or 16 cm?						
		12 cm	15 cm	16 cm	b	

Scoring: 0 = incorrect; 1 = correct

Item 10	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is a line graph. (Point to student materials.) This graph shows how many fish were caught each hour. How many fish were caught at 3 PM: 13, 19, or 16?						
		13	19	16	b	

Scoring: 0 = incorrect; 1 = correct

Item 11	Option:	A	B	C	Correct	Scoring (0/1)
L - Here is a two-way frequency table showing how many boys and girls prefer fruits or vegetables. (Point to student materials.) How many students are girls: 14, 20, or 40?						
		14	20	40	b	

Scoring: 0 = incorrect; 1 = correct

Item 12	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is an expression. (Point to student materials.) A term is a part of an expression with either a number or a variable. What is a term in this expression: 5, 6, or $5x^3$?						
		5	6	$5x^3$	c	

Scoring: 0 = incorrect; 1 = correct

Item 13	Option:	A	B	C	Correct	Scoring (0/1)
L - Here are three triangles: A, B, and C. (Point to student materials.) Which triangle is equilateral, meaning that its sides are the same length: A, B, or C?						
		A	B	C	b	

Scoring: 0 = incorrect; 1 = correct

Item 14	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are two vectors, 53 and 15. (Point to student materials.) Vectors can be added just like numbers. What is the sum of these two vectors: 44, 60, or 68?						
		44	60	68	c	

Scoring: 0 = incorrect; 1 = correct

Item 15	Option:	A	B	C	Correct	Scoring (0/1)
M - Here are two vectors, 29 and 9. (Point to student materials.) Vectors, which look like arrows, can be added just like numbers. What is the sum of these two vectors: 20, 38, or 40?						
		20	38	40	b	

Scoring: 0 = incorrect; 1 = correct

Item 16	Option:	A	B	C	Correct	Scoring (0/1)
M - Here are three different birds flying at different speeds. (Point to student materials.) The sparrow flies 83 kilometers per hour. The hawk flies 60 kilometers per hour. The parrot flies 75 kilometers per hour. Which bird is flying the slowest: sparrow, hawk, or parrot?						
		sparrow	hawk	parrot	b	

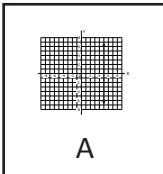
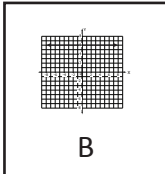
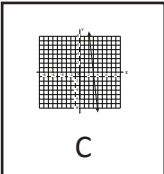
Scoring: 0 = incorrect; 1 = correct

Item 17	Option:	A	B	C	Correct	Scoring (0/1)
M - Here are three rhombuses. (Point to student materials.) Similar rhombuses are the same except they are different sizes. Which shapes are similar: A & B, B & C, or A & C?						
		A & B	B & C	A & C	b	

Scoring: 0 = incorrect; 1 = correct

Item 18	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are three octagons: A, B, and C. (Point to student materials.) Congruent shapes are the same size. Which of these shapes are congruent: A & B, B & C, or A & C?						
		A & B	B & C	A & C	c	

Scoring: 0 = incorrect; 1 = correct

Item 19	Option:	A	B	C	Correct	Scoring (0/1)
L - Here is a picture of a line with zero slope. (Point to student materials.) When a line is horizontal, it has a slope of zero. Which line has a zero slope: A, B, or C?						
					b	

Scoring: 0 = incorrect; 1 = correct

Item 20	Option:	A	B	C	Correct	Scoring (0/1)
M - Here is a line segment that is 32 units long. (Point to student materials.) Which point divides this line segment in fourths: A, B, or C?						
					b	

the student should be told that the number line is in two parts

Scoring: 0 = incorrect; 1 = correct

Item 21	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is a line that crosses the x-axis. (Point to student materials.) Where does this line cross the x-axis: at -3, 6, or 9?						
		-3	6	9	a	

Scoring: 0 = incorrect; 1 = correct

Item 22	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is a pentagon on a coordinate plane (Point to student materials.). What are the coordinates for the missing point: (3,4), (3, -2), or (-2, 3)?						
		(3,4)	(3,-2)	(-2,3)	b	

Scoring: 0 = incorrect; 1 = correct

Item 23	Option:	A	B	C	Correct	Scoring (0/1)
M - Here are three shapes: A, B, and C. (Point to student materials.) Which shape is equilateral, meaning that its sides are the same length: A, B, or C?						
		A	B	C	a	

Scoring: 0 = incorrect; 1 = correct

Item 24	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is a picture of Ruby running. (Point to student materials.) Will Ruby's heartbeat likely increase, decrease, or stay the same if she runs faster?						
		increase	decrease	same	a	

Scoring: 0 = incorrect; 1 = correct

Item 25	Option:	A	B	C	Correct	Scoring (0/1)
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L - Here is an expression. (Point to student materials.) The coefficient is the number right before the variable. What is the coefficient of x in this expression: 3, 1, or x ?

3	1	x	a	
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Scoring: 0 = incorrect; 1 = correct

Item 26	Option:	A	B	C	Correct	Scoring (0/1)
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H - Here is a picture of a snow covered road. (Point to student materials.) If the road is covered with snow, does the likelihood of a no school/snow day increase, decrease, or stay the same?

no picture

increase	decrease	same	a	
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Scoring: 0 = incorrect; 1 = correct

Item 27	Option:	A	B	C	Correct	Scoring (0/1)
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


H - Here is a two-way frequency table showing how many boys and girls prefer fruits or vegetables. (Point to student materials.) Who likes vegetables more: boys, girls, or do they like them the same?

boys	girls	same	a	
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Scoring: 0 = incorrect; 1 = correct

Item 28	Option:	A	B	C	Correct	Scoring (0/1)
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H - Here are three lines, A, B, and C. (Point to student materials.) Lines with positive relationship go up and to the right. Which line shows a positive relationship: A, B, or C?

			b	
A	B	C		

Scoring: 0 = incorrect; 1 = correct

Item 29	Option:	A	B	C	Correct	Scoring (0/1)
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L - Here is a number sequence: 2, 4, 6, 8. (Point to student materials.) What number has been added to each of the numbers in this sequence: 2, 3, or 4?

2	3	4	a	
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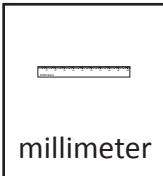
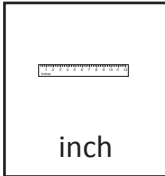

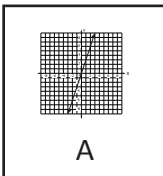
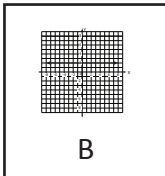
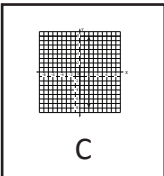
Scoring: 0 = incorrect; 1 = correct

Item 30	Option:	A	B	C	Correct	Scoring (0/1)
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H - Here is an equation with the variable x . (Point to student materials.) This says $2x - 5 = 15$. What number, times two, minus five equals 15: 5, 10, or 15?

5	10	15	b	
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Scoring: 0 = incorrect; 1 = correct

Item 31	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are three units of measure: a millimeter, an inch, and a foot. (Point to student materials.) Which would you use to measure the length of a piece of paper: a millimeter, an inch, or a foot?		no pictures				
					b	
		millimeter	inch	foot		
Scoring: 0 = incorrect; 1 = correct						
Item 32	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is an equation with the variable f. (Point to student materials.) This says $4f + 2 = 30$. What number times 4, plus 2 equals 30: 3, 5, or 7?						
		3	5	7	c	
Scoring: 0 = incorrect; 1 = correct						
Item 33	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are numbers in order from smallest to largest. (Point to student materials.) The range is the difference between the largest and smallest value. What is the range: 30, 19, or 88?						
		30	19	88	a	
Scoring: 0 = incorrect; 1 = correct						
Item 34	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are three lines, A, B, and C. (Point to student materials.) Lines with positive relationship go up and to the right. Which line shows a positive relationship: A, B, or C?					a	
		A	B	C		
Scoring: 0 = incorrect; 1 = correct						
Item 35	Option:	A	B	C	Correct	Scoring (0/1)
L - Here is a graph, with a y-axis and an x-axis. (Point to student materials.) This graph shows how many servings of fruit each child eats in a week. What units are used in this graph: servings, groups, or categories?						
		servings	groups	categories	a	
Scoring: 0 = incorrect; 1 = correct						
Item 36	Option:	A	B	C	Correct	Scoring (0/1)
H - There are 10 chips in a bag; 2 white, 2 light gray, 2 dark gray, 2 spotted, and 2 black. You take one out. (Point to student materials.) Probability is the likelihood of an event compared to all possible events. What is the probability that the chip you take out is spotted: $1/3$, $1/6$, or $2/10$?						
		$1/3$	$1/6$	$2/10$	c	
Scoring: 0 = incorrect; 1 = correct						

Item 37 Option: A B C Correct Scoring (0/1)

H - Here are three playing cards, with hearts, diamonds, and spades. (Point to student materials.) Which card has a rhombus shape inside: A, B, or C?

A	B	C	b	
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Scoring: 0 = incorrect; 1 = correct

Item 38 Option: A B C Correct Scoring (0/1)

H - Here is an output table showing what happens to y when x equals 1, 2, 3, 4, and 5. (Point to student materials.) What is the value for y when $x = 3$: 25, 50, or 75?

25	50	75	c	
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Scoring: 0 = incorrect; 1 = correct

Item 39 Option: A B C Correct Scoring (0/1)

M - Here is a graph with a y -axis and x -axis. (Point to student materials.) This graph shows how many books each student read during summer vacation. How many more books did Juan read compared to Maria: 3, 5, or 6?

3	5	6	a	
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Scoring: 0 = incorrect; 1 = correct

Item 40 Option: A B C Correct Scoring (0/1)

H - Here is a number sequence: 2, __, 8, 16. (Point to student materials.) What number is missing in this sequence: 4, 6, or 7?

4	6	7	a	
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Scoring: 0 = incorrect; 1 = correct

Item 41 Option: A B C Correct Scoring (0/1)




M - Here is a graph with a y -axis and x -axis. (Point to student materials.) This graph shows how many points each student scored during basketball practice. How many more points did Laura score compared to Josh: 1, 2, or 5?

1	2	5	b	
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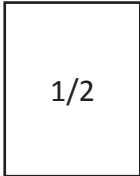

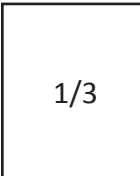
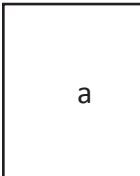
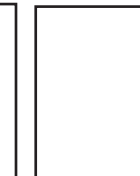
Scoring: 0 = incorrect; 1 = correct

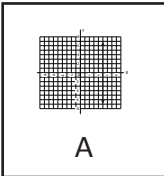
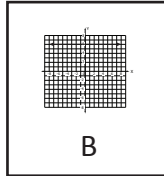
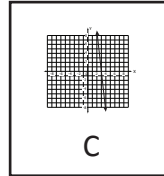
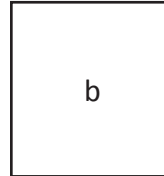

Item 42 Option: A B C Correct Scoring (0/1)

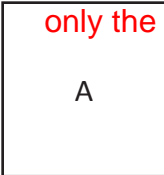
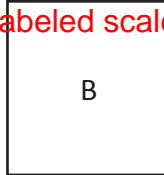
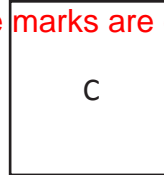
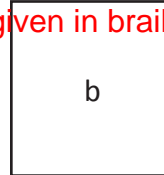

M - Here are some lines. (Point to student materials.) A line with negative slope goes down from left to right. Which line has negative slope: A, B, or C?

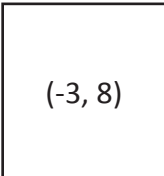
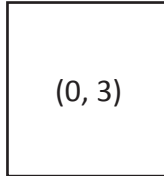
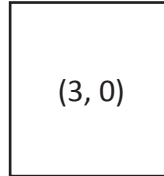
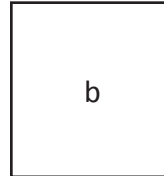

 A	 B	 C	b	
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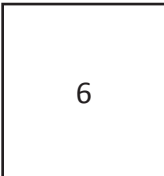
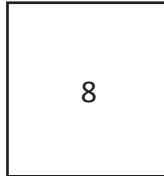
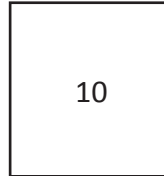
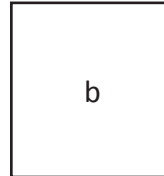

Scoring: 0 = incorrect; 1 = correct

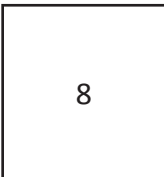

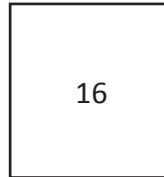
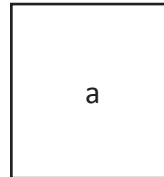

Item 43	Option:	A	B	C	Correct	Scoring (0/1)
L - Here is a coin with the heads side showing. The tails side is behind. (Point to student materials.) Probability is the likelihood of an event compared to all possible events. If you flip this coin, what is the probability of the coin landing on the heads side: $\frac{1}{2}$, $\frac{2}{3}$, or $\frac{1}{3}$?		no picture				
						
Scoring: 0 = incorrect; 1 = correct						

Item 44	Option:	A	B	C	Correct	Scoring (0/1)
H - Here are some lines. (Point to student materials.) When a line is horizontal, it has a slope of zero. Which line has zero slope: A, B, or C?						
Scoring: 0 = incorrect; 1 = correct						

Item 45	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is a line segment that is 42 units long. (Point to student materials.) Which point divides this line segment in thirds: A, B, or C?		student should be told that the number line is in two parts only the labeled scale marks are given in braille				
						
Scoring: 0 = incorrect; 1 = correct						

Item 46	Option:	A	B	C	Correct	Scoring (0/1)
H - Here is a pentagon on a coordinate plane. (Point to student materials.) What are the coordinates for the missing point: (-3, 8), (0, 3), or (3, 0)?						
						
Scoring: 0 = incorrect; 1 = correct						

Item 47	Option:	A	B	C	Correct	Scoring (0/1)
M - Here is a number sequence: 20, 14, __, 2. (Point to student materials.) What number is missing in this sequence: 6, 8, or 10?						
						
Scoring: 0 = incorrect; 1 = correct						

Item 48	Option:	A	B	C	Correct	Scoring (0/1)
L - Here are two scores. (Point to student materials.) The mean is the average of a group of scores. To find it, add the scores and then divide by the number of scores. What is the mean: 8, 12, or 16?						
						
Scoring: 0 = incorrect; 1 = correct						