

#	<u>Question</u>	For Ms. Clark's use only
1 N O C A L C	<p>Let a represent a non-zero rational number and let b represent an irrational number.</p> <p>Which expression could represent a rational number?</p> <p>A. $-b$</p> <p>B. $a + b$</p> <p>C. ab</p> <p>D. b^2</p>	PARCC 2A
2 N O C A L C	<p>Which points are on the graph of the equation $-3x + 6y + 5 = -7$?</p> <p>Select all that apply.</p> <p>A. $(-3, 6)$</p> <p>B. $(-2, 0)$</p> <p>C. $(0, -2)$</p> <p>D. $(6, -3)$</p> <p>E. $(8, 2)$</p>	PARCC 5
3 N O C A L C	<p>The cost to manufacture x pairs of sunglasses can be represented by a function, $C(x)$. If it costs \$398 to manufacture 4 pairs of sunglasses, which of the following is true?</p> <p>Select the correct equation.</p> <p>A. $C(4) = 99.50$</p> <p>B. $C(398) = 4$</p> <p>C. $C(4) = 398$</p> <p>D. $C(99.50) = 1$</p>	PARCC 8

<p>4</p>	<p>Let $x + y = c$ where, c is a real number.</p> <p>Determine the number of points that would be on the graph of the equation for each given case:</p> <p>Case 1: $c < 0$</p> <p>Case 2: $c = 0$</p> <p>Case 3: $c > 0$</p> <p>Justify your answers.</p>	<p>PARCC 17</p>
<p>5</p>	<p>The formula for finding the perimeter, P, of a rectangle with length l and width w is given.</p> $P = 2l + 2w$ <p>Which formula shows how the length of a rectangle can be determined from the perimeter and the width?</p> <p>A. $l = \frac{P}{2} - 2w$</p> <p>B. $l = \frac{P-2w}{2}$</p> <p>C. $l = \frac{P}{2} + w$</p> <p>D. $l = \frac{P-2}{2w}$</p>	<p>PARCC 18</p>
<p>6</p>	<p>A high school is having a talent contest and will give different prizes for the best 5 acts in the show. First place wins the most money, and each place after that wins \$50 less than the previous place.</p> <p>Let x represent the value of the first place prize. Let y represent the total amount of prize money awarded.</p> <p>Part A</p> <p>Create a model that can be used to determine the total amount of prize money based on the value of the first place prize.</p> <p>Write your final answer in slope-intercept form.</p> <p>Part B</p> <p>The talent contest has a total of \$1,000 in prize money. What is the amount of money for each of the five prizes? Show your work.</p>	<p>PARCC 22</p>

7

Jerome is constructing a table of values that satisfies the definition of a function.

Input	-13	20	0	-4	11	-1	17	
Output	-15	-11	-9	-2	-1	5	5	13

Which number(s) can be placed in the empty cell so that the table of values satisfies the definition of a function?

Select **all** that apply.

- A. -5
- B. -1
- C. 0
- D. 2
- E. 11
- F. 17

8

Which points are on the same line that passes through $(-4, -3)$, $(20, 15)$, and $(48, 36)$?

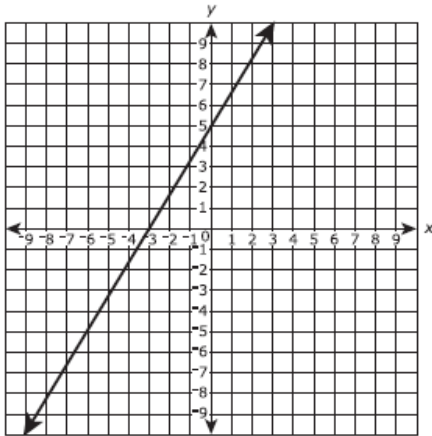
Select **all** that apply.

- A. $(-8, -6)$
- B. $(-2, -1)$
- C. $(0, 0)$
- D. $(4, 3)$
- E. $(6, 8)$

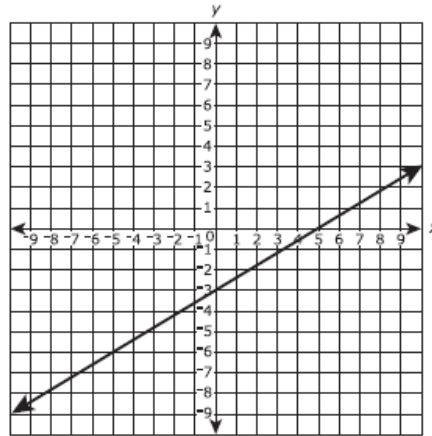
9

Which graph represents the equation $5y - 3x = -15$?

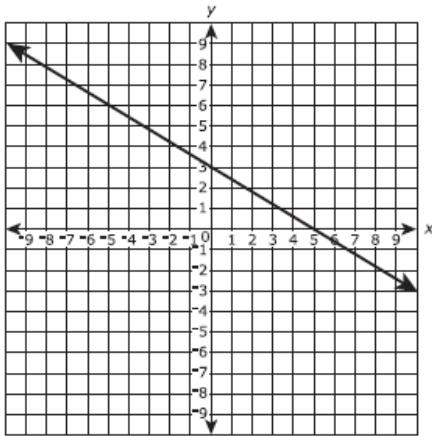
A.



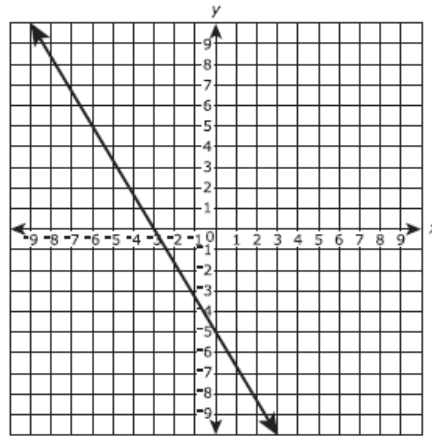
B.



C.



D.

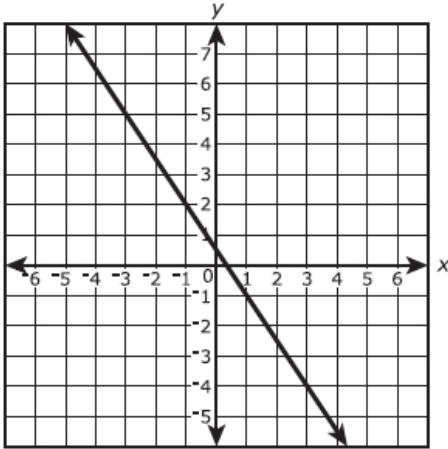


10

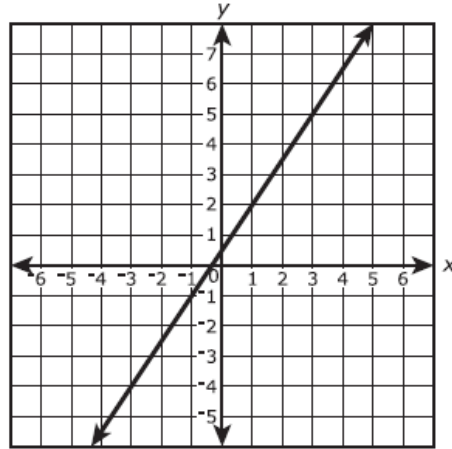
The ordered pairs $(20, -29.5)$, $(21, -31)$, and $(22, -32.5)$ are points on the graph of a linear equation.

Which of the following graphs shows **all** of the ordered pairs in the solution set of this linear equation?

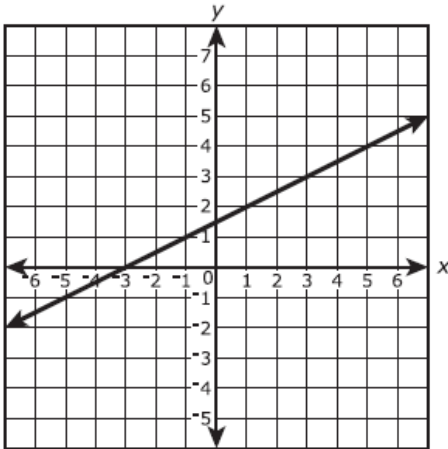
A.



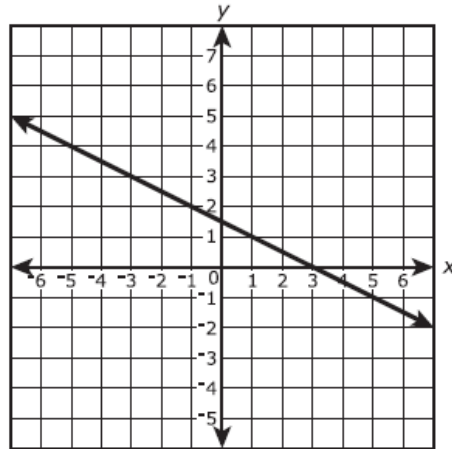
B.



C.



D.



11

Caroline knows the height and the required volume of a cone-shaped vase she's designing. Which formula can she use to determine the radius of the vase?

A. $r = \sqrt{\frac{V}{3\pi h}}$

B. $r = \sqrt{\frac{3V}{\pi h}}$

C. $r = \frac{\sqrt{3V}}{\pi h}$

D. $r = \pm \sqrt{\frac{3V}{\pi h}}$

$$V = \frac{1}{3} \pi r^2 h$$

<p>12</p> <p>N</p> <p>O</p> <p>C</p> <p>A</p> <p>L</p> <p>C</p>	<p>Two boys, Shawn and Curtis, went for a walk. Shawn began walking 20 seconds earlier than Curtis.</p> <ul style="list-style-type: none"> • Shawn walked at a speed of 5 feet per second. • Curtis walked at a speed of 6 feet per second. <p>For how many seconds had Shawn been walking at the moment when the two boys had walked exactly the same distance?</p>	<p>NC 6</p>
<p>13</p> <p>N</p> <p>O</p> <p>C</p> <p>A</p> <p>L</p> <p>C</p>	<p>The math club sells candy bars and drinks during football games.</p> <ul style="list-style-type: none"> • 60 candy bars and 110 drinks will sell for \$265. • 120 candy bars and 90 drinks will sell for \$270. <p>How much does each candy bar sell for?</p> <p>(Note: Express the answer in dollars.cents.)</p>	<p>NC 7</p>
<p>14</p> <p>N</p> <p>O</p> <p>C</p> <p>A</p> <p>L</p> <p>C</p>	<p>What is the smallest of 3 consecutive positive integers if the product of the smaller two integers is 5 less than 5 times the largest integer?</p>	<p>NC 8</p>
<p>15</p> <p>N</p> <p>O</p> <p>C</p> <p>A</p> <p>L</p> <p>C</p>	<p>Two times Antonio's age plus three times Sarah's age equals 34. Sarah's age is also five times Antonio's age. How old is Sarah?</p>	<p>NC 10</p>
<p>16</p> <p>N</p> <p>O</p> <p>C</p> <p>A</p> <p>L</p> <p>C</p>	<p>Katie and Jennifer are playing a game.</p> <ul style="list-style-type: none"> • Katie and Jennifer each started with 100 points. • At the end of each turn, Katie's points doubled. • At the end of each turn, Jennifer's points increased by 200. <p>At the start of which turn will Katie first have more points than Jennifer?</p>	<p>NC 14</p>

17

Energy and mass are related by the formula $E = mc^2$.

- m is the mass of the object.
- c is the speed of light.

Which equation finds m , given E and c ?

A $m = E - c^2$

B $m = Ec^2$

C $m = \frac{c^2}{E}$

D $m = \frac{E}{c^2}$

18

Lucy and Barbara began saving money the same week. The table below shows the models for the amount of money Lucy and Barbara had saved after x weeks.

Lucy's Savings	$f(x) = 10x + 5$
Barbara's Savings	$g(x) = 7.5x + 25$

After how many weeks will Lucy and Barbara have the same amount of money saved?

- A 1.1 weeks
- B 1.7 weeks
- C 8 weeks
- D 12 weeks

19

The table below shows the cost of a pizza based on the number of toppings.

Number of Toppings (n)	Cost (C)
1	\$12
2	\$13.50
3	\$15
4	\$16.50

Which function represents the cost of a pizza with n toppings?

- A $C(n) = 12 + 1.5(n - 1)$
- B $C(n) = 1.5n + 12$
- C $C(n) = 12 + n$
- D $C(n) = 12n$

20

There were originally 4 trees in an orchard. Each year the owner planted the same number of trees. In the 29th year, there were 178 trees in the orchard. Which function, $t(n)$, can be used to determine the number of trees in the orchard in any year, n ?

- A $t(n) = \frac{178}{29}n + 4$
- B $t(n) = \frac{178}{29}n - 4$
- C $t(n) = 6n + 4$
- D $t(n) = 29n - 4$