

1 What are the solutions to the equation  $3(x - 6)^2 = 3$ ?

- A  $x = 6 \pm \sqrt{73}$       C  $x = 3 \pm \sqrt{7}$   
 B  $x = 5$  and  $x = 7$       D no solution

4.A.8.A

3 Simplify  $2.4(3x^2 + 6x - 2) - 1.6(9x + 5)$

- A  $7.2x^2 - 8.4x + 3$   
 B  $-7.2x^2 + 6x + 3$   
 C  $7.2x^2 - 12.8$   
 D  $-14.4x^2 + 6x - 7$

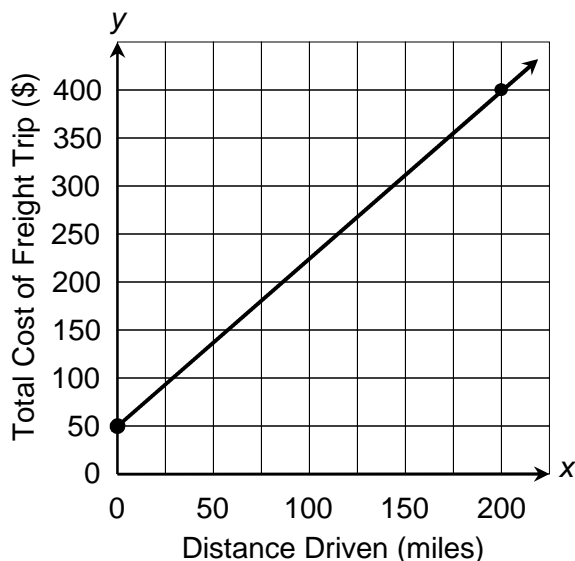
1.A.10.A

6 A rectangular placemat with an area equal to  $x^2 - 11x + 24$  units could have which possible dimensions for length and width?

- A  $(x - 12)$  and  $(x + 2)$       C  $(x + 4)$  and  $(x + 6)$   
 B  $(x - 3)$  and  $(x - 8)$       D  $(x - 1)$  and  $(x + 24)$

1.A.10.E

2 A truck freight company charges a minimum trip charge plus a constant rate per mile driven. The relationship between total cost of a freight trip and the distance driven is graphed below.



Which statement is true regarding the situation?

- F The cost of delivering freight 200 miles is \$400 so the rate per mile is \$2.00.  
 G The y-intercept of the line is 50 so the first 50 miles driven are free.  
 H It costs \$400 to deliver 200 miles so the cost to deliver 400 miles is \$800.  
 J Cost of a freight trip consists of a \$50 pickup charge plus \$1.75 per mile driven.

2.A.3.C

4 What value of  $x$  would make the equation below true?

$$6\left(\frac{2}{3}x - 1\right) = \frac{3}{2}(2x - 10)?$$

+	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

3.A.5.A

5 Some values from the graph of an exponential function are shown in the table.

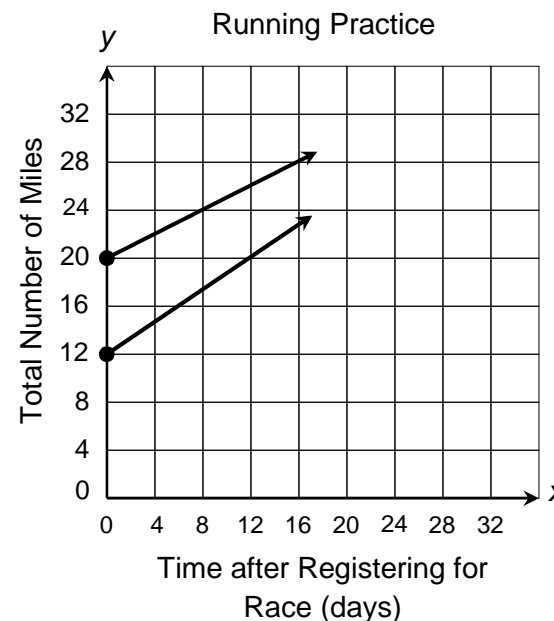
$x$	0	1	2	3
$y$	0.75	4.5	27	162

Which of these functions has the same relationship as the table values?

- F  $f(x) = 4.5(0.75)^x$       H  $f(x) = 4.5(36)^x$   
 G  $f(x) = 0.75(6)^x$       J  $f(x) = 20.25(2)^x$

5.A.9.C

7 Two students register on the same day for a school race challenge at the end of the year. Each had run practice miles before registering and then kept running miles at a constant rate each day after registering as represented below.



Which system of equations can find the day each will have run the same number of miles?

- F  $y = \frac{1}{2}x + 20$       H  $y = \frac{1}{2}x + 20$   
 $-2x + 3y = 36$        $-3x + 2y = 24$   
 G  $-x + 2y = 20$       J  $x + 2y = 40$   
 $y = \frac{2}{3}x + 12$        $y = \frac{3}{2}x + 12$

3.A.2.I