Algebra Quick Quiz 11222019

Question 1.

The first four terms in a linear sequence are shown below.

$$1, \ 7, \ 13, \ 19, \ldots$$

What is the sixth term in the sequence?

A. 30
B. 31
C. 32
D. 33

Question 2

Line g has a slope of $-\frac{4}{7}$. Which of the following equations represents a line that is **perpendicular** to line g?

A. $y = -\frac{7}{4}x$

B. $y = -\frac{4}{7}x$

C. $y = \frac{4}{7}x$

D. $y = \frac{7}{4}x$

Question 3.

Which of the following is equivalent to the expression below?

$$(4x + 6)(2x)$$

A. $16x$

B. $20x$

C. $8x^2 + 6x$

D. $8x^2 + 12x$

Question 4

Which of the following is equivalent to the expression below?

$$x^2 - 5x - 24$$

A. $(x - 6)(x + 4)$

B. $(x + 6)(x - 4)$

C. $(x + 8)(x - 3)$

D. $(x - 8)(x + 3)$

Question 5.

What is the value of the expression below?

$$\left(\sqrt{11}\right)^4$$

A. 11

B. 22

C. 121

D. 1331

Question 6.

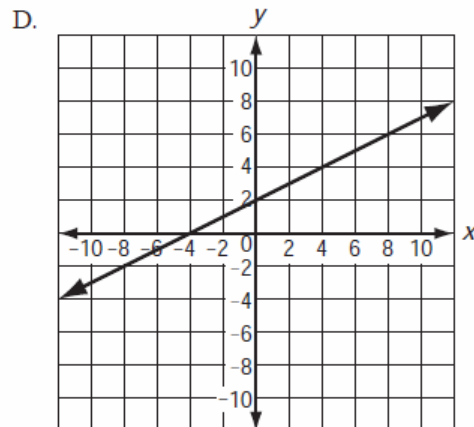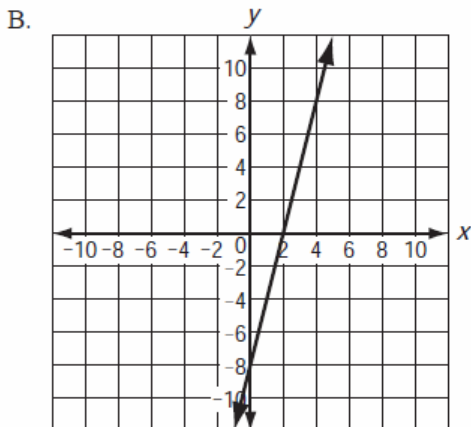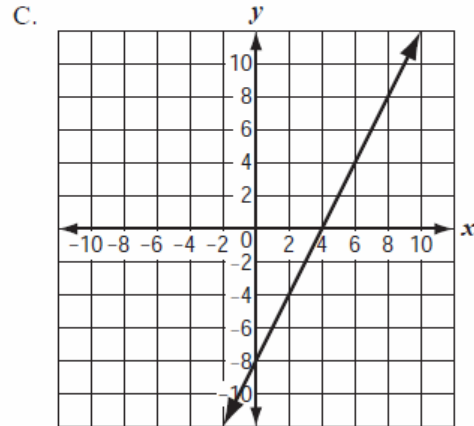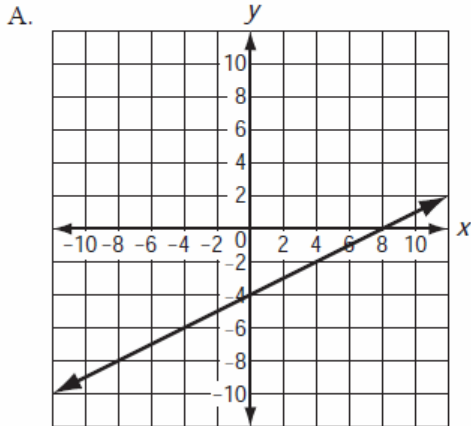What are the solutions of the equation below?

$$x^2 + 4x - 12 = 0$$

A. -6 and -2

B. -6 and 2

C. -8 and -4

D. -8 and 4

Question 7.

14 Which of the following best represents the graph of the equation below?

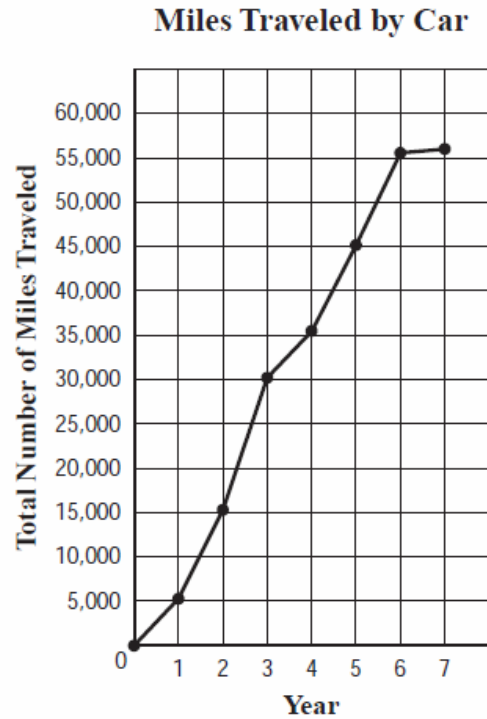$$y = \tfrac{1}{2}x - 4$$

A.

C.

B.

D.

Question 8.

What is the value of the expression below?

$$3^2 - 16 \div 4 + 2$$

Question 9.

The line graph below shows the total number of miles traveled by a car during a 7-year period.

Miles Traveled by Car

Based on the line graph, between which two consecutive years was the rate of change, in miles traveled per year, the greatest?

Question 10.

Consider the function $f(x) = 2x^2 + 6x - 8$.

What is a factored form of $f(x)$?

A. $f(x) = (2x + 1)(x - 8)$

B. $f(x) = (2x - 1)(x + 8)$

C. $f(x) = 2(x + 4)(x - 1)$

D. $f(x) = 2(x - 4)(x + 1)$

Bonus

Question 11

Consider the function $f(x) = 2x^2 + 6x - 8$.

Part A

Fill in the missing portions of the equation to rewrite $f(x)$ to reveal the vertex of the graph of the function.

Enter your answers in the boxes. Use decimals if necessary.

$f(x) = 2(x + \boxed{})^2 + \boxed{}$