

Algebra 1 Quick-Quiz-12022024  
Non Calculator section.  
Question 1.

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

$$1, 7, 13, 19, \dots$$

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?

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

- A. 11
- B. 22
- C. 121
- D. 1331

### Question 6.

What are the solutions of the equation below?

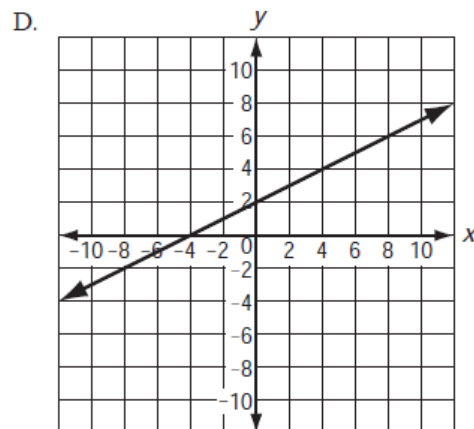
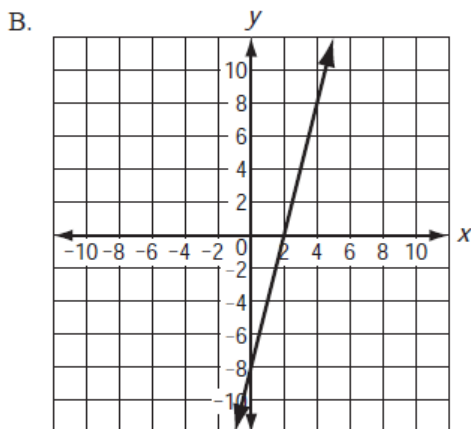
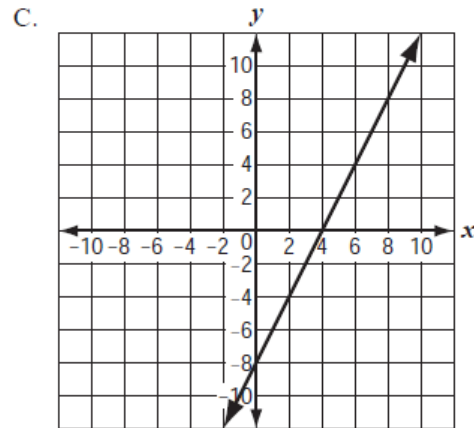
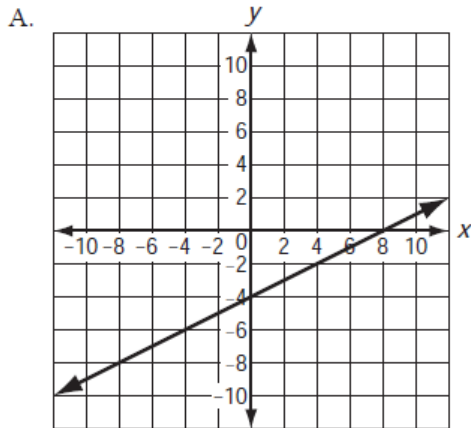
$$x^2 + 4x - 12 = 0$$

- 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?

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



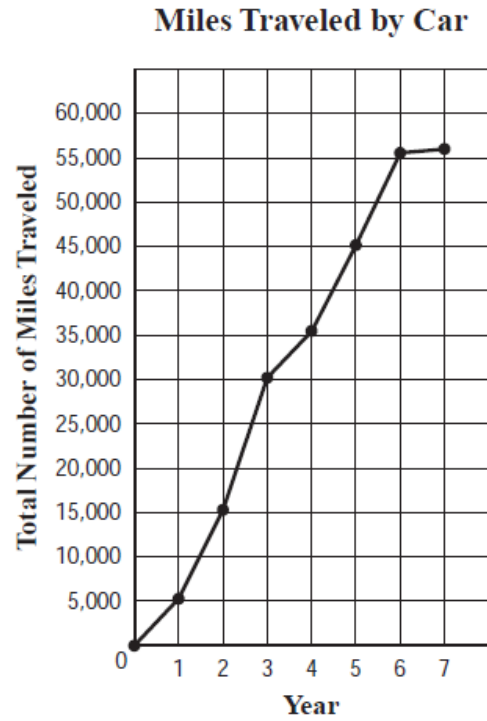
## Question 8.

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.



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.

$$f(x) = 2(x + \boxed{\phantom{00}})^2 + \boxed{\phantom{00}}$$