

**Algebra 1 Quick Quiz**  
**Daily Quiz 10072023**

**Question 1.**

Eli, a mechanic, earns \$20 for every oil change he performs and \$120 for every tune-up. He needs to earn over \$2,100 today to be able to pay the rent for his business and still have some money left over.

Select the inequality in standard form that describes this situation. Use the given numbers and the following variables.

$x$  = the number of oil changes Eli will do today

$y$  = the number of tune-ups Eli will do today

$120x + 20y \geq 2,100$

$120x + 20y > 2,100$

$20x + 120y \geq 2,100$

$20x + 120y > 2,100$

**Question 2.**

When solved for  $x$  in terms of  $a$ , the solution to the equation  $3x - 7 = ax + 5$  is

(1)  $\frac{12}{3a}$

(3)  $\frac{3a}{12}$

(2)  $\frac{12}{3 - a}$

(4)  $\frac{3 - a}{12}$

**Question 3.**

Which of the following is a solution of the equation below?

$$(k - 4)(k + 5) = 0$$

A.  $-9$

B.  $-1$

C.  $4$

D.  $5$

Question 4.

Solve  $4x^2 - 10x + 6 = 0$

A.  $x = -\frac{1}{2}$  or  $x = 3$

B.  $x = -1$  or  $x = \frac{3}{2}$

C.  $x = \frac{3}{4}$  or  $x = 2$

D.  $x = \frac{3}{2}$  or  $x = 1$

Question 5.

This parabola shows the relationship between the amount of money a baker earns from bread sales each day and the price the baker charges for each loaf of bread.



Based on the parabola, what price should the baker charge for each loaf of bread to earn the greatest amount of money from bread sales each day?

**Question 6.**

Which of the following shows the expression below in factored form?

$$x^2 - 2x - 48$$

- A.  $(x - 8)(x + 6)$
- B.  $(x - 8)(x - 6)$
- C.  $(x - 2)(x + 24)$
- D.  $(x - 2)(x - 24)$

**Question 7.**

What are the solutions of the equation below?

$$5x(x + 8) = 0$$

- A.  $x = -5; x = -8$
- B.  $x = 0; x = -8$
- C.  $x = 0; x = 8$
- D.  $x = 5; x = 8$

**Question 8.**

What are the solutions of the equation below?

$$(x - 2)(x + 9) = 0$$

- A.  $x = -2$ ;  $x = -9$
- B.  $x = -2$ ;  $x = 9$
- C.  $x = 2$ ;  $x = -9$
- D.  $x = 2$ ;  $x = 9$

**Question 9.**

Which of the following is equivalent to the expression below?

$$x^2 + 7x - 60$$

- A.  $(x + 12)(x - 5)$
- B.  $(x + 10)(x - 6)$
- C.  $(x + 15)(x - 4)$
- D.  $(x + 20)(x - 3)$

**Question 10.**

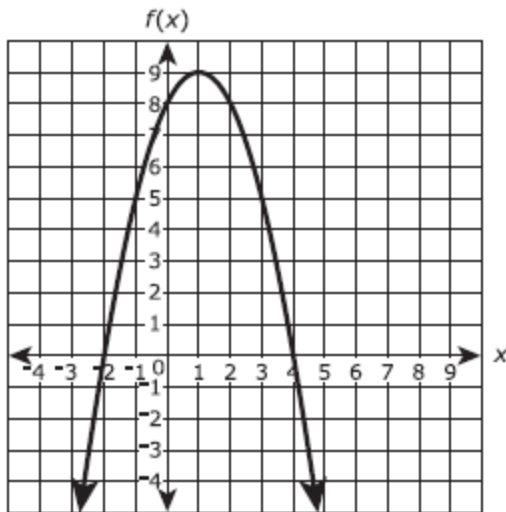
Which of the following is **not** a solution of the equation below?

$$3x(x - 1)(x - 2) = 0$$

- A.  $x = 0$
- B.  $x = 1$
- C.  $x = 2$
- D.  $x = 3$

**Bonus**  
**11.**

The figure shows a graph of the function of  $f(x)$  in the  $xy$ -coordinate plane, with the vertex at  $(1, 9)$  and the zeros at  $-2$  and  $4$ .



The function  $g$  is defined by  $g(x) = -3x + 2$ .

Which statements are true? Select **all** that apply.

- A.**  $f(-2)$  is greater than  $g(-2)$ .
- B.**  $f(-1)$  is less than  $g(-1)$ .
- C.**  $f(0)$  is greater than  $g(0)$ .
- D.**  $f(1)$  is less than  $g(1)$ .
- E.**  $f(2)$  is greater than  $g(2)$ .