

Algebra 1 Quick-Quiz-02272025

Question 1

Stephanie is solving the equation  $x^2 - 12 = 7x - 8$ . Her first step is shown below.

$$\text{Given: } x^2 - 12 = 7x - 8$$

$$\text{Step 1: } x^2 - 4 = 7x$$

Which property justifies her first step?

- (1) associative property      (3) distributive property  
(2) commutative property      (4) addition property of equality

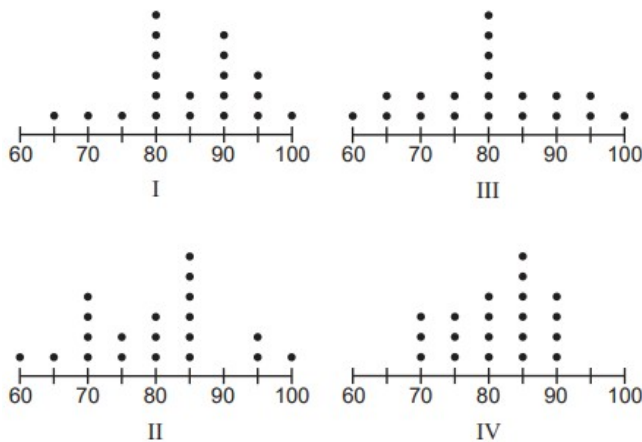
Question 2

What is the sum of  $8\sqrt{3}$  and  $\sqrt{3}$ ?

- (1)  $8\sqrt{6}$       (3)  $7\sqrt{3}$   
(2)  $9\sqrt{6}$       (4)  $9\sqrt{3}$

Question 3.

The dot plots below represent test scores for 20 students on a math test.

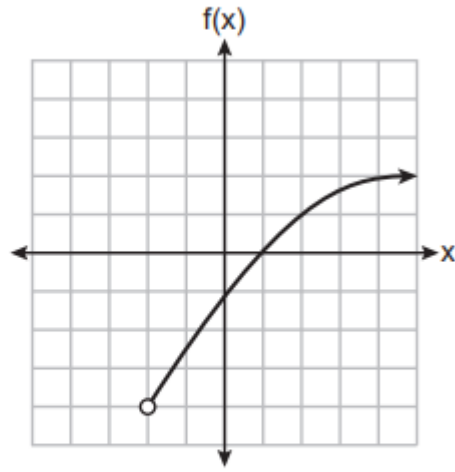


The mode for this math test is 80 and the median is 85. Which dot plot correctly represents this data?

- (1) I      (3) III  
(2) II      (4) IV

Question 4.

A function is graphed on the set of axes below.



The domain of this function is

- (1)  $\{x|x > -2\}$                       (3)  $\{x|x > -4\}$   
(2)  $\{x|x \geq -2\}$                       (4)  $\{x|x \geq -4\}$

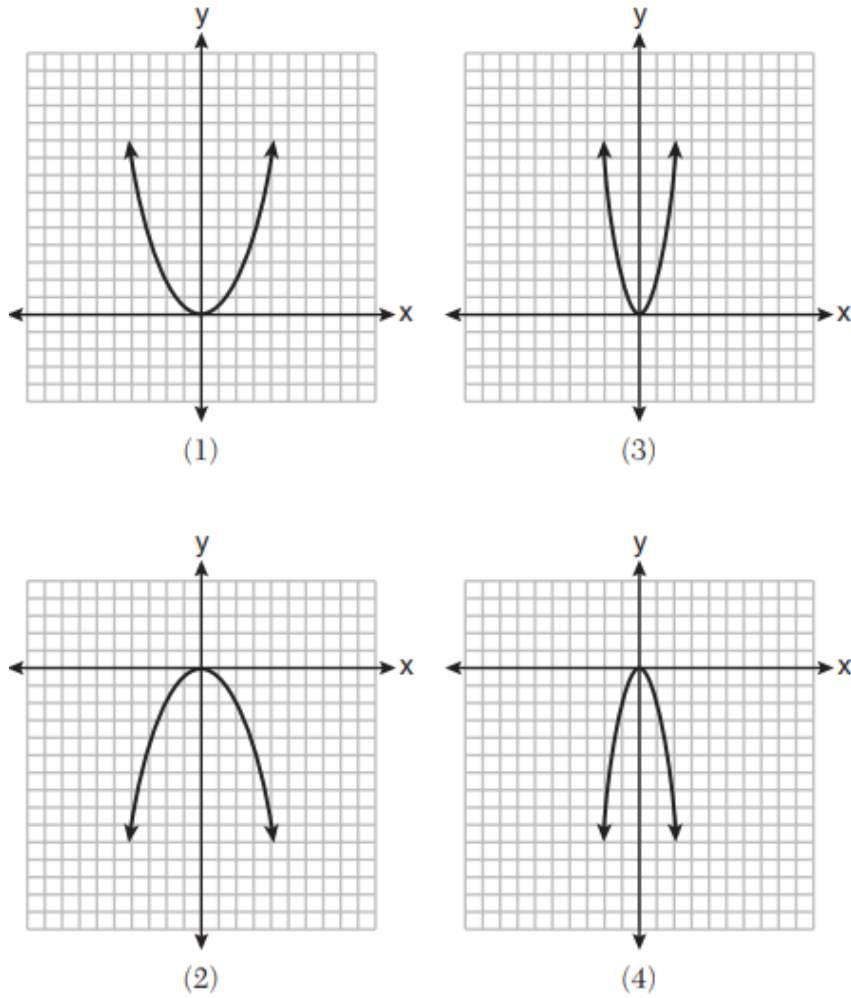
Question 5.

Which ordered pair is a solution to the equation  $y - 1 = 2\left(x + \frac{1}{4}\right)$ ?

- (1) (0.75, 0)                      (3) (2.5, -6.5)  
(2) (1.25, 4)                      (4) (4, -9.5)

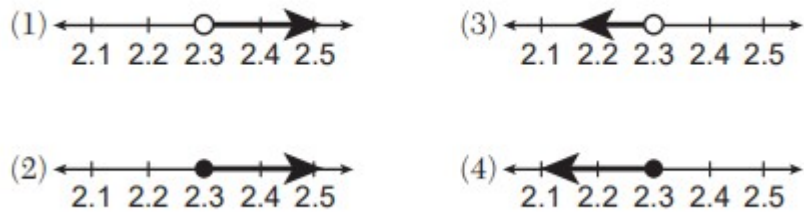
Question 6.

The function  $f(x) = x^2$  is multiplied by  $k$ , where  $k < -1$ . Which graph could represent  $g(x) = kf(x)$ ?



Question 7.

Which graph is the solution to the inequality  $6.4 - 4x \geq -2.8$ ?



Question 8.

The number of fish in a pond is eight more than the number of frogs. The total number of fish and frogs in the pond is at least 20. If  $x$  represents the number of frogs, which inequality can be used to represent this situation?

(1)  $x + 8x \geq 20$

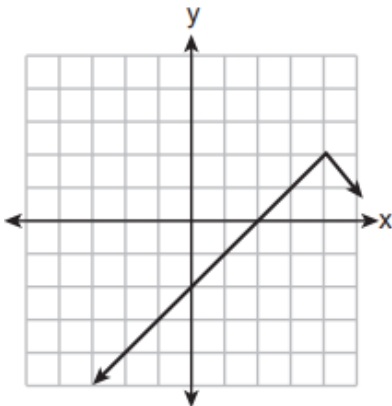
(3)  $x + 8x \leq 20$

(2)  $2x + 8 \geq 20$

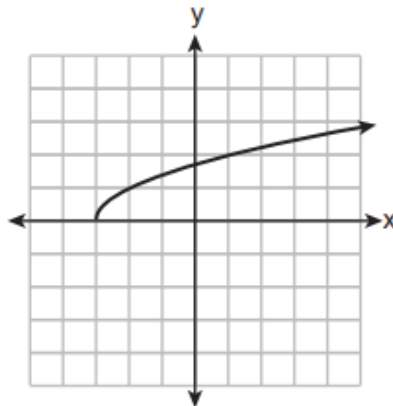
(4)  $2x + 8 \leq 20$

Question 9.

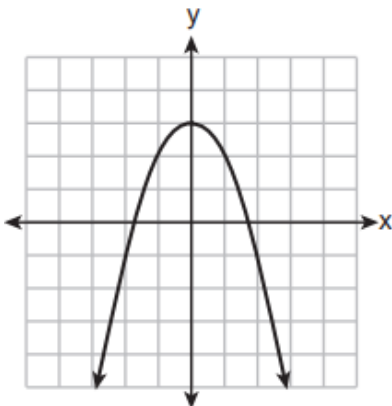
Which graph below represents a function that is always *decreasing* over the entire interval  $-3 < x < 3$ ?



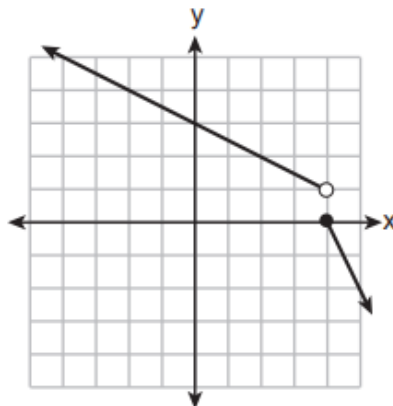
(1)



(3)



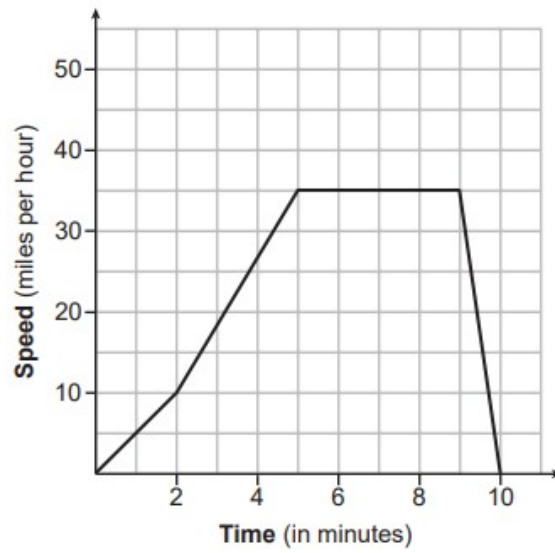
(2)



(4)

Question 10.

The graph below models Sally's drive to the store.



State an interval when Sally is traveling at a constant speed.

Explain your reasoning.

Bonus Question

Question 11

Solve  $x^2 + 8x = 33$  for  $x$  by completing the square.