

Algebra 1 Quick-Quiz-03052025

Question 1

If $f(x) = x^2$, then which function represents a shift of the graph of $f(x)$ 4 units to the right and 3 units down?

- (1) $g(x) = (x + 4)^2 + 3$ (3) $h(x) = (x - 4)^2 - 3$
(2) $j(x) = (x + 4)^2 - 3$ (4) $k(x) = (x - 4)^2 + 3$

Question 2

The amount of money a plumber charges is represented by the function $p(h) = 45 + 90h$. The best interpretation of the y -intercept of this function is that the plumber charges

- (1) \$45 to come to the house
(2) \$45 per hour that he works
(3) \$90 to come to the house
(4) \$90 per hour that he works

Question 3.

What is the solution to the inequality $2m - 4 \leq 3(2m + 4)$?

- (1) $m \leq -2$ (3) $m \leq -4$
(2) $m \geq -2$ (4) $m \geq -4$

Question 4.

A survey of students at West High School was taken to determine a theme for the prom. The results of the survey are summarized in the table below.

	Beach Party	Hollywood	Broadway
Girls	86	112	68
Boys	123	77	79

Approximately what percentage of the students who chose the Broadway theme were girls?

- (1) 26 (3) 46
(2) 27 (4) 68

Question 5.

The sum of $2\sqrt{54}$ and $2\sqrt{6}$ is

- (1) $4\sqrt{60}$ (3) $7\sqrt{6}$
(2) $8\sqrt{15}$ (4) $8\sqrt{6}$

Question 6.

The functions $f(x) = x^2 - 5x - 14$ and $g(x) = x + 2$ are graphed on the same set of axes. What are the solutions to the equation $f(x) = g(x)$?

- (1) -14 and 0 (3) -2 and 8
(2) 0 and 2 (4) -2 and 7

Question 7.

If $x = 4a^2 - a + 3$ and $y = a - 5$, then which polynomial is equivalent to the product of x and y ?

- (1) $-17a^2 - 2a - 15$ (3) $4a^3 - 21a^2 - 2a - 15$
(2) $-17a^2 + 8a - 15$ (4) $4a^3 - 21a^2 + 8a - 15$

Question 8.

When the equation $6 - ax = ax - 2$ is solved for x in terms of a , and $a \neq 0$, the result is

- (1) $4a$ (3) $2a$
(2) $\frac{4}{a}$ (4) $\frac{2}{a}$

Question 9.

Which function has the zeros -1 , 3 , and -4 ?

(1) $f(x) = (x + 1)(x - 3)(x - 4)$

(2) $g(x) = (x - 1)(x + 3)(x - 4)$

(3) $h(x) = (x + 1)(x - 3)(x + 4)$

(4) $k(x) = (x - 1)(x + 3)(x + 4)$

Question 10.

The expression $5^a + 2b$ is equivalent to

(1) $5^a \cdot 5^2 \cdot 5^b$

(3) 25^{2ab}

(2) $5^a \cdot 25^b$

(4) $25^{a + 2b}$

Bonus Question

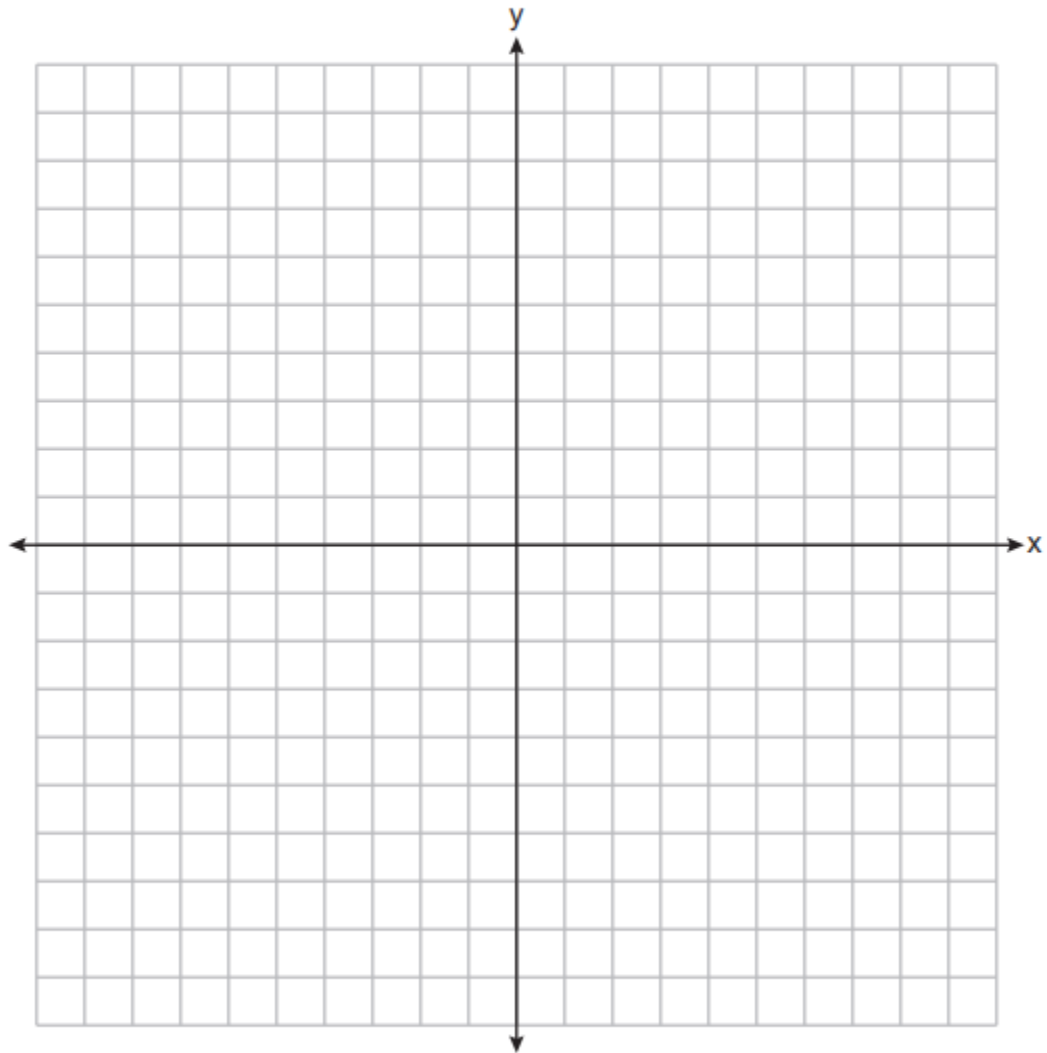
Question 11

Graph the system of inequalities on the set of axes below:

$$y > 3x - 4$$

$$x + 2y \leq 6$$

Label the solution set S .



Is the point $(2,2)$ a solution to the system? Justify your answer.