Algebra Quick Quiz 03182022

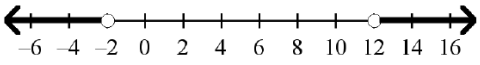
Question 1.

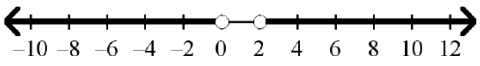
George is helping the manager of the local produce market expand her business by distributing flyers around the neighborhood. He gets paid $20 a day as well as $0.05 for every flyer he distributes. George would like to earn at least $65 each day. Which of the following represents this situation, where x is the number of flyers distributed.

a. $20 + 0.05x \leq 65$
b. $20 + 5x \leq 65$
c. $20 + 0.05x \geq 65$
d. $20 + 5x \geq 65$

Question 2

Which graph represents the solutions of $p + 1 < -1$ OR $p - 5 > 7$?

a.


b.


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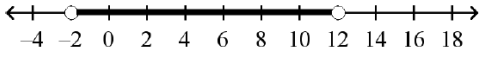
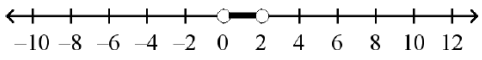


d.


Question 3.

The solution to the equation $x^2 - 6x = 0$ is

(1) 0, only
(2) 6, only
(3) 0 and 6
(4) $\pm\sqrt{6}$

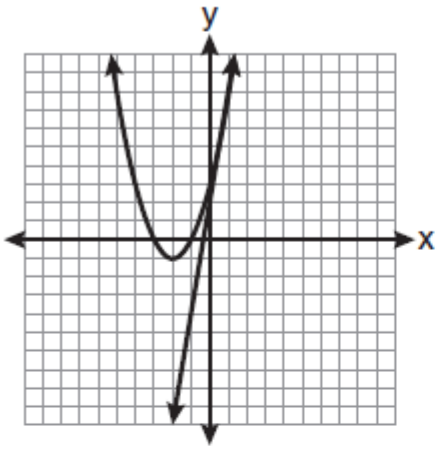
Question 4.

When $5\sqrt{20}$ is written in simplest radical form, the result is $k\sqrt{5}$. What is the value of k?

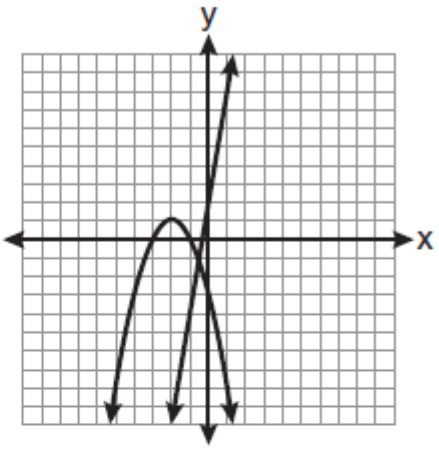
(1) 20
(2) 10
(3) 7
(4) 4

Question 5.

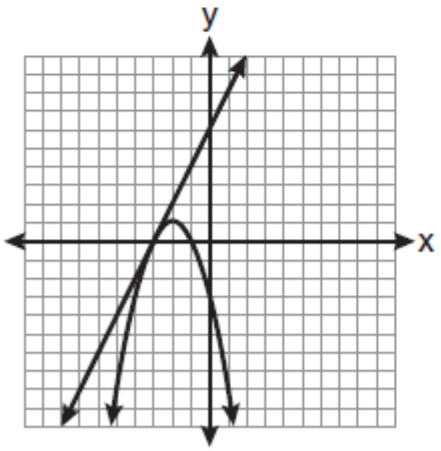
Which graph could be used to find the solution of the system of equations $y = 2x + 6$ and $y = x^2 + 4x + 3$?



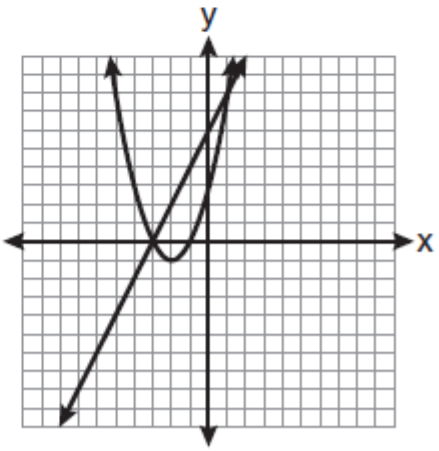
(1)



(3)



(2)



(4)

Question 6.

Tim ate four more cookies than Alice. Bob ate twice as many cookies as Tim. If x represents the number of cookies Alice ate, which expression represents the number of cookies Bob ate?

(1) $2 + (x + 4)$

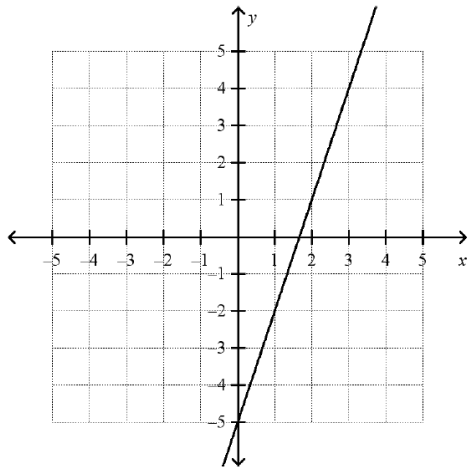
(2) $2x + 4$

(3) $2(x + 4)$

(4) $4(x + 2)$

Question 7.

What is the equation of the line shown in the graph?



a. $y = 3x + \frac{3}{2}$

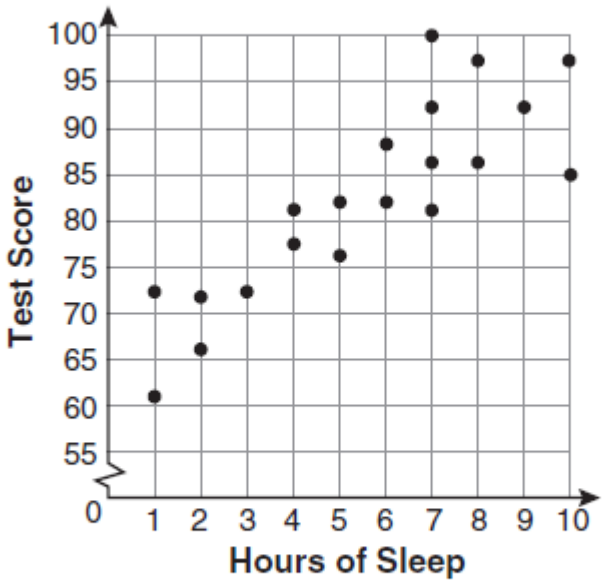
b. $y = -3x - 5$

c. $y = 3x - 5$

d. $y = 2x - 5$

Question 8.

What is the relationship between the independent and dependent variables in the scatter plot shown below?



(1) undefined correlation

(2) negative correlation

(3) positive correlation

(4) no correlation

Question 9.

What is the value of x in the equation $2(x - 4) = 4(2x + 1)$?

(1) -2

(2) 2

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

(4) $\frac{1}{2}$

Question 10.

When $a^3 - 4a$ is factored completely, the result is

(1) $(a - 2)(a + 2)$

(2) $a(a - 2)(a + 2)$

(3) $a^2(a - 4)$

(4) $a(a - 2)^2$

Bonus Questions
Question 11a.

Which value of x is the solution of the equation $\frac{2}{3}x + \frac{1}{2} = \frac{5}{6}$?

(1) $\frac{1}{2}$

(2) 2

(3) $\frac{2}{3}$

(4) $\frac{3}{2}$

Question 11b

Part A

The function f is defined by $f(x) = x^2 - 2x - 24$.

If $f(x+4) = x^2+kx -16$ what is the value of k?

Part B

What are the zero(s) of f(x+4)?

Select ALL that apply.

a) -4
b) -8
c) +8
d) 2
e) -2
f) 4
g) 16
h) 1