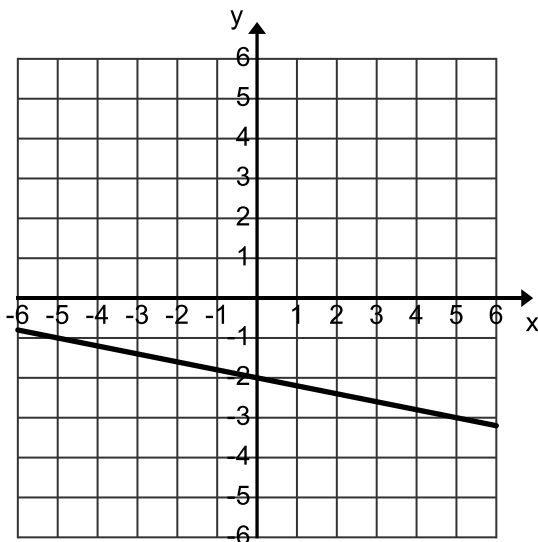# 2014 SOL Quiz C Questions 21-44

____1.   A system of inequalities is shown.
$$\begin{cases} y > \dfrac{1}{2}x + 1 \\ y + 3x \le 6 \end{cases}$$

Which point is a solution to this system of inequalities?

A. (4, -1)　　　　B. (2, 3)　　　　C. (-2, 3)　　　　D. (4, 10)

____2.   The graph of line n is shown.

Which number is closest in value to the slope of line n?

A. 5　　　　B. -5　　　　C. $\dfrac{1}{5}$　　　　D. $-\dfrac{1}{5}$

____3.   The formula shown can be used to find A, the amount of money Raul has in his savings account: $A = P + Prt$

Raul wants to find t. Which equation is correctly solved for t?

A. $t = A - 2Pr$ 　　　　　　　　　B. $t = Ar - P$

C. $t = \dfrac{A - P}{Pr}$ 　　　　　　　　　D. $t = \dfrac{A - Pr}{P}$

____4.   What are the real roots of $x^2 - 8x - 20 = 0$?

A. 2 and 10　　　B. -2 and 10　　　C. -2 and -10　　　D. 2 and -10

_____5.　　The formula for the arithmetic mean of three numbers is given below.

$$m = \frac{x_1 + x_2 + x_3}{3}$$

Which shows this formula solved for x_1?

A.　$x_1 = 3m - x_2 + x_3$　　　　　　　　　B.　$x_1 = 3m - x_2 - x_3$

C.　$x_1 = 3m + x_2 + x_3$　　　　　　　　　D.　$x_1 = 3(m - x_2 + x_3)$

_____6.　　Which equation represents the horizontal line passing through (5, 7)?
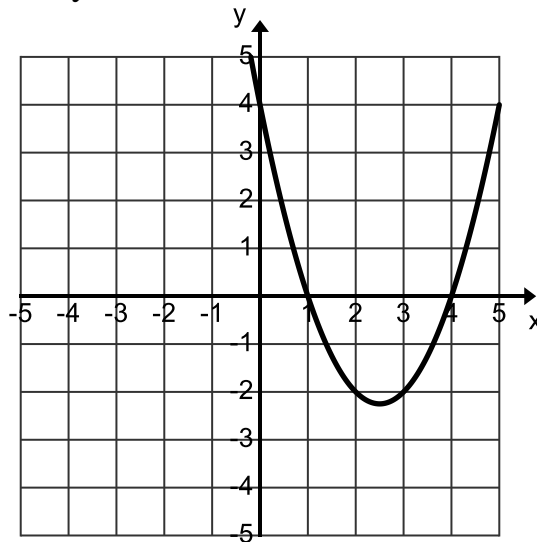
A.　$x = 5$　　　　　　B.　$x = 7$　　　　　　C.　$y = 5$　　　　　　D.　$y = 7$

_____7.　　The graph of $y = x^2 - 5x + 4$ is shown.

What are the solutions to $x^2 - 5x + 4 = 0$?

A.　$x = 1$ and $x = 4$　　　　　　　　　　B.　$x = -1$ and $x = -4$

C.　$x = 1$ and $x = -4$　　　　　　　　　　D.　$x = -1$ and $x = 4$

_____8.　　What value of p will make this equation true?
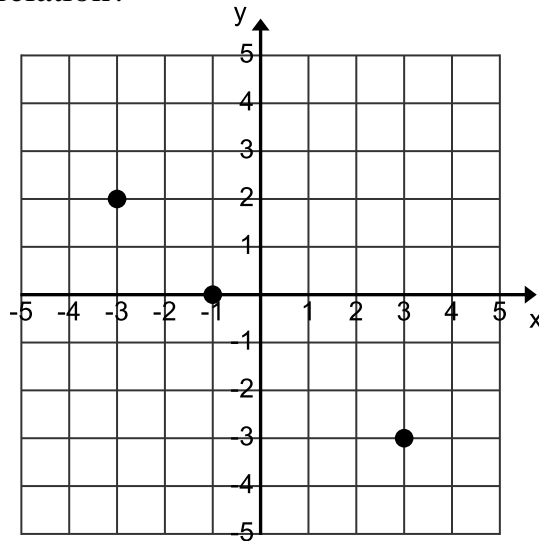
$$\frac{p-2}{3} = \frac{p+2}{4}$$

A.　12　　　　　　　　B.　-12　　　　　　　　C.　14　　　　　　　　D.　-14

_____9.   What is the slope of the line represented by this equation?

$$2x + 3y = 12$$

A. $\dfrac{2}{3}$ B. $\dfrac{3}{2}$ C. $-\dfrac{2}{3}$ D. $-\dfrac{3}{2}$

_____10.   The length, l, of a rectangle is 2 times its width. The perimeter of the rectangle is greater than 48 centimeters. Which inequality expresses all the possible lengths, in centimeters, of the rectangle?

A. $l > 8$ B. $l > 16$ C. $l > 18$ D. $l > 24$

_____11.   Using the ordered pairs shown, what would be the RANGE if we used a domain of $\{-1, 2, 4\}$?

(-5, -1)	(-1, -6)
(3, 2)	(-4, 4)
(2, 9)	(4, 1)

A. $\{-5, 3, -4\}$ B. $\{-6, 9, 1\}$ C. $\{-5, 3, 1\}$ D. $\{2, 3, -4\}$

_____12.   Which equation represents the pattern shown in the table?

x	y
-3	3
-1	-1
2	-7

A. $y = 2x + 9$ B. $y = x + 6$

C. $y = -2x - 3$ D. $y = -x$

_____13.   What is f(-4) for the function f?

$$f(x) = \dfrac{11(x - 24)}{2}$$

A. -110   B. -112   C. -114   D. -154

_____14.   What is the range of this relation?

A. $\{x|-3 \le x \le 2\}$ B. $\{x|-2 \le x \le 3\}$

C. $\{-3,-1,3\}$ D. $\{2,0,-3\}$

_____15.   Identify each of the x- and y-intercepts of the relation shown.
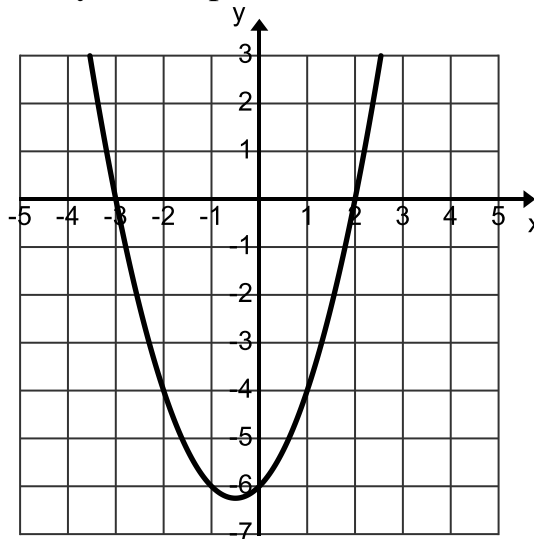
A. (-3, 0) (2, 0) (0, -6)   B. (2, 0) (4, 0) (0, -3)

C. (0, -3) (0, 2) (0, -6)   D. (2, 0) (4, 0) (0, -6)

_____16.   What is the value of $\sqrt{200}$ in **simplest** radical form?

A. $2\sqrt{10}$ B. $2\sqrt{50}$ C. $5\sqrt{8}$ D. $10\sqrt{2}$

____17.   The table shows the relationship between corresponding values of x and y.

x	y
-6	-11
-3	-5
3	7
6	13

To determine the y-value –
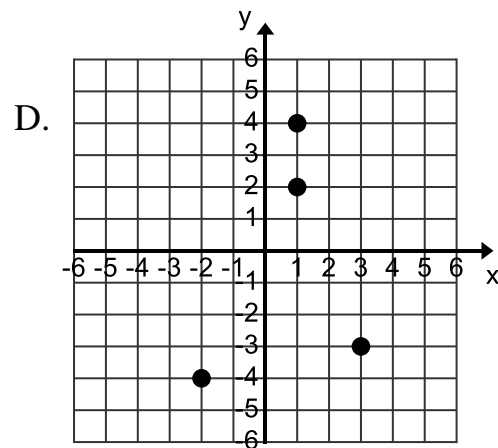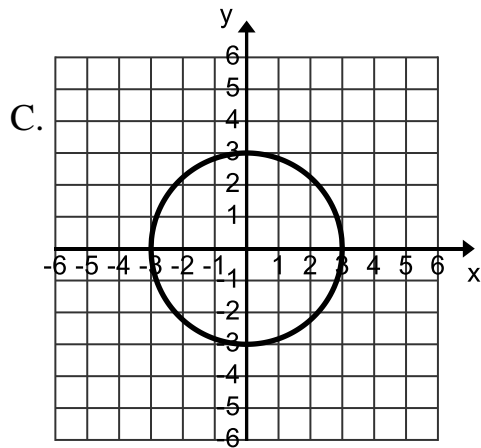
A. multiply the x-value by 2 and subtract 1   B. add 4 to the x-value

C. multiply the x-value by 2 and add 1   D. subtract 5 from the x-value

____18.   Which relation is a function?

A. {(-1, 2) (3, 4) (-1, 8)}   B.

x	y
2	3
4	3
5	2

C.   D.

____19.   Identify each expression that is a factor of this polynomial: $2x^2 - 10x + 8$

I. x – 4   II. 2   III. x + 1   IV. x – 5

A. I and II   B. II and IV

C. II and III   D. I and III

____20.   When n > 0, which expression is equivalent to $\sqrt{12a^3n^4}$ in simplest form?

A. $2an\sqrt{3an}$ B. $2an^2\sqrt{3a}$ C. $4an\sqrt{n}$ D. $2an^3\sqrt{3n}$