NAME_____**DATE**_____**PER.**_____

ANALYZING QUADRATIC FUNCTIONS – DAY 2

Round answers to the nearest tenth, if necessary.

1. Find the solutions to $x^2 – 9x + 20 = 0$.

2. Find the x-intercepts of $y = x^2 + 3x – 18$.

3. What are the zeros of $x^2 + 12x + 35 = 0$?

4. What is the vertex of $y = -x^2 – x + 6$.

5. What are the roots of $3x^2 + 2x = 6$?

6. What are the zeros of the function $f(x) = 3x – 9$?

7. What is the minimum point of $f(x) = x^2 + 8x + 12$?

8. Find the vertex, x- and y-intercepts of $y = -3x^2 – 6x + 2$?

9. Martin likes to cook for guests. The amount of time, *t*, that Martin spends cleaning the kitchen is directly proportional to the number of guest, *g*, he serves. It takes 30 minutes to clean up the kitchen after serving 4 guests. Which of the equations represents the equation of direct variation?

A. $g = \frac{30}{8}t$ B. $t = \frac{60}{4}g$ C. $g = \frac{2}{15}t$ D. $t = \frac{15}{2}g$

10. If (x, -3) is a solution to the equation $3x - 2y - 15 = 0$, what is the value of x?

11. The perimeter of a rectangle is 24 inches. The width of the rectangle, *W*, is one-third its length. Which system of equation best represents this situation?

A. $2L + 2W = 24$
$L = \frac{1}{3}W$

B. $L + W = 24$
$L = \frac{1}{3}W$

C. $2L + 2W = 24$
$W = \frac{1}{3}L$

D. $L + W = 24$
$W = \frac{1}{3}L$

12. The area of a rectangle is $30m^{11}n^5$ square units. If the length of the rectangle is $6m^4n^2$ units, how many units wide is the rectangle? ($m \neq 0$ and $n \neq 0$)

A. $5m^7n^3$ units

B. $24m^7n^3$ units

C. $36m^{15}n^7$ units

D. $180m^{15}n^7$ units

13. Which expression describes the area in square units of a rectangle that has a width of $4x^3y^2$ and a length of $3x^2y^3$?

A. $12x^6y^6$

B. $12x^5y^5$

C. $7x^6y^6$

D. $7x^5y^5$

Answers in random order : A, -7, -1.8, 3, C, 5, (0.3, 0), (-6, 0), (-4, -4), 4, -5, D, (3, 0), 1.1, (-2.3, 0), B, (-0.5, 6.25), (-1, 5), (0, 2), 3