Algebra 2 – Chapter 2.1 to 2.4 **NAME** _____
Mid Chapter practice test *Limestone Community High School*

Section 2-1
Relations & Functions

1. State the **Domain** of the relation.

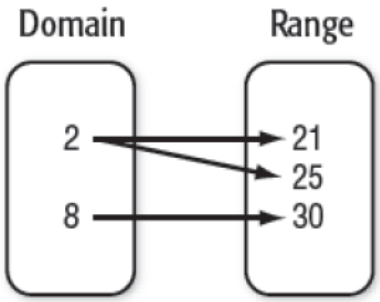
$\{(-5, 2), (4, -2), (3, -11), (-7, 2)\}$

2. State the **Range** of the relation.

x	y
−3	0
−1	−1
0	0
2	−2
3	4

Section 2-1
Relations & Functions

3. Tell if the relation is a function or not. Explain.



4. Tell if the relation is a function or not. Explain.

$\{(-3, 4), (-2, 4), (-1, -1), (3, -1)\}$

Section 2-1
Function Evaluation

5. Evaluate the function value at $\boldsymbol{f(-2)}$

$$\boldsymbol{f(x) = 2x^2 - 3x + 4}$$

Section 2-1
Function Evaluation

7. Evaluate the function value at $\boldsymbol{f(5y)}$

$$\boldsymbol{f(x) = x^2 + 1}$$

6. Evaluate the function value at $\boldsymbol{g(1.5)}$

$$\boldsymbol{g(x) = -5x + 4}$$

8. Evaluate the function value at $\boldsymbol{g(x + 4)}$

$$\boldsymbol{g(x) = -3x + 10}$$

9. State if the function linear? Explain.

$$-2x + y = 10$$

Section 2-2
Linear Relations & Functions

11. Re-Write the equation in Slope-Intercept Form. $(y = mx + b)$

$$\frac{3}{2}x + \frac{2}{3}y = 5$$

10. State if the function linear? Explain.

$$y = \frac{1}{x} + 4$$

12. Re-Write the equation in Standard Form. $(Ax + By = C)$

$$6y - 7 = 3x + 11$$

Section 2-3
Rate of Change & Slope

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

13. Find the slope of the line the passes through the pair of points. Express answer as a fraction in simplest form.

$$(4, 7) \textit{ and } (6, 13)$$

14. Find the slope of the line the passes through the pair of points. Express answer as a fraction in simplest form.

$$(3, 2) \textit{ and } (3, -5)$$

15. Find the slope of the line the passes through the pair of points. Express answer as a fraction in simplest form.

$$(-1, 4) \textit{ and } (3, -8)$$

16. Find the slope of the line the passes through the pair of points. Express answer as a fraction in simplest form.

$$(-2, -5) \textit{ and } (-7, 10)$$

17. Find the rate of change for the table of data.

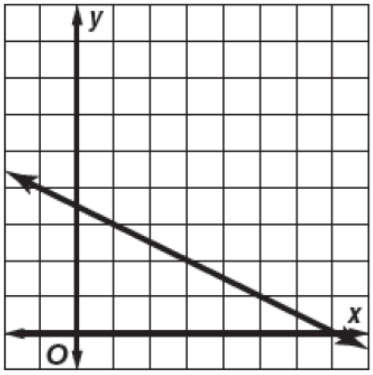
Time (min)	2	4	6	8	10
Distance (ft)	12	24	36	48	60

18. Find the rate of change for the given equation.

$$-2y - 16x = 41$$

Section 2-3
Rate of Change & Slope

19. Determine the rate of change of the graph**.**



20. Mr. Ricca went hiking. At 7:00am his elevation was 7400 feet and he hiked to an elevation of 9800 feet by 11:00am. What was his rate of change in feet per minute?

Section 2-4
Writing Linear Equations

$$y = m(x - x_1) + y_1$$

21. Write the equation of the line that has a slope of $\mathbf{3}$ and y-intercept at $-\mathbf{4}$.

23. Write the equation of the line that has a slope of $\mathbf{2}$ and passes through the point $(\mathbf{3}, \mathbf{3})$.

22. Write the equation of the line that has a slope of $-\mathbf{2}$ and x-intercept at $\mathbf{5}$.

24. Write the equation of the line that passes through the points $(-\mathbf{1}, -\mathbf{4})$ and $(\mathbf{1}, \mathbf{2})$**.**

Section 2-4
Writing Linear Equations

25. Tell whether the lines are ***parallel***, ***perpendicular***, or ***neither***.
Compare the slopes.

Line 1: $\boldsymbol{y = \frac{1}{2}x + 3}$

Line 2: $\boldsymbol{y = -2x + 3}$

26. Tell whether the lines are ***parallel***, ***perpendicular***, or ***neither***.
Compare the slopes.

Line 1: through $(1, -1)$ and $(5, 2)$

Line 2: through $(-8, 3)$ and $(-4, 6)$

Section 2-4
Writing Linear Equations

27. Write the equation of the line that is ***parallel*** to the line $\boldsymbol{y = -2x + 3}$ and passes through the point $\boldsymbol{(-3, 5)}$.

28. Write the equation of the line that is ***perpendicular*** to the line $\boldsymbol{y = \frac{1}{4}x - 5}$ and passes through the point $\boldsymbol{(2, -2)}$.

Algebra 2 – Chapter 2.1 to 2.4
ANSWER DOCUMENT

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Limestone Community High School

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