

## Unit 8 Quiz 1 Study Guide

Name: \_\_\_\_\_

1. What is the slope of the line  $y = -3x + 1$ ? -3 What is the slope of a line parallel to this line? -3

What is the slope of the line perpendicular to this line?  $\frac{1}{3}$

2. What is the slope of the line perpendicular to  $y = \frac{2}{3}x + 8$ ?  $m = -\frac{3}{2}$

3. Provide an equation for a perpendicular to the line  $y = \frac{4}{5}x + 4$ .  $y = -\frac{5}{4}x + b$

4. Write the equation for the line that passes through points (2, 5) & (-2, 4).  
for any number b

$$y = \frac{1}{4}x + \frac{9}{2}$$

5. Write the equation of a line that is parallel to the line  $y = 3x - 3$ .

$$y = 3x + b$$

6. Write the equation of the line that is parallel to  $y = x - 1$  and passes through the point (2, 6).

$$y = x + 4$$

7. Write the equation of a line that is perpendicular to the line  $y = 8x + 7$ .

$$y = -\frac{1}{8}x + b$$

8. What is the slope of the line that passes through points (8, 0) & (-2, 4)? Write the equation of the line.

$$y = -\frac{2}{5}x + \frac{16}{5}$$

9. What is the distance between (3, -3) & (7, 2)? Write the equation of the line that passes through these points.

$$d = \sqrt{41}$$

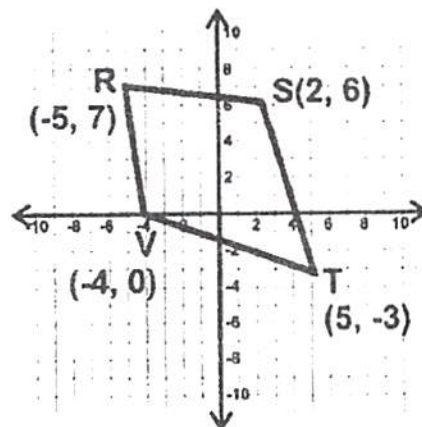
$$y = \frac{5}{4}x - \frac{27}{4}$$

10. What is the perimeter of a triangle with vertices  $(-1, 3)$ ,  $(0, 4)$ , &  $(0, 3)$ ?

$$2 + \sqrt{2} \text{ units}$$

11. Find the perimeter of quadrilateral RSTV.

$$P = 10\sqrt{2} + 6\sqrt{10} \text{ units}$$
$$\approx 33.12 \text{ units}$$



12. Find the area of quadrilateral RSTV.

$$60 \text{ units}^2$$

13. Find the midpoint of the segment with endpoints at  $(1, 4)$  &  $(4, 6)$ .

$$(2.5, 5)$$

14. Partition the segment with endpoints at  $(-2, 3)$  &  $(10, 6)$  at a ratio of 1:2.

$$(2, 4)$$

15. Partition the segment with endpoints  $(12, 12)$  &  $(-3, 2)$  at a ratio of 1:4.

$$(9, 10)$$

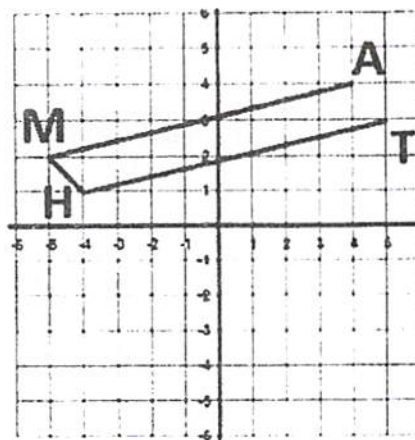
16. Write the equation of the line that would complete the parallelogram MATH. Then, find its perimeter and area.

$$y = -x + 8$$

$$P = 2\sqrt{2} + 2\sqrt{35} \text{ units}$$

$$\approx 21.27 \text{ units}$$

$$A = 11 \text{ units}^2$$



17. Are the lines that pass through  $(3, -1)$  &  $(4, 2)$  and  $(1, 1)$  &  $(-3, 4)$  parallel, perpendicular, coincidental, or none?

They have different slopes that are not  $\perp$