Name:_____ Date:_____ Group:____ Grade:_____

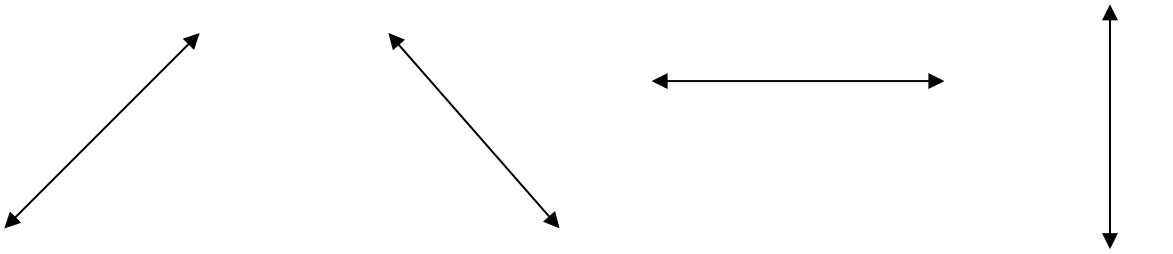
Slope Study Guide

Vocabulary

Fill in the empty space with the correct vocabulary.

1. A linear equation of the form _____Y=mx+b_____ is said to be in slope-intercept form.
2. What variable represents slope? _____m_____
3. What Variable represents the y-intercept? ___b_____
4. What two formulas can be used to find the slope of a line? _____$\frac{y_2 - y_1}{x_2 - x_1}$_____ and _____$\frac{Rise}{Run}$_____.

Identify the following slopes:



5. __Positive___ 6._____Negative___ 7._____Zero___ 8.___Undefined___

Identify the slope and y-intercept of the line with the given equation. Show your work in the space provide.

9. y= $\frac{4}{3}$x – 6 Slope____$\frac{4}{3}$_____ y-inter.___ – 6___

10. 2x – 5y = 15 Slope____$\frac{2}{5}$_____ y-inter_____– 3 _____

-2x -2x

- 5y = -2x + 15

- 5 - 5 -5

Y= $\frac{2}{5}$ x – 3

11. 2x + 3y = 6 Slope___ – $\frac{2}{3}$_____ y-inter___2_____

-2x -2x

3y = - 2x + 6

3 3 3

Y= $-\frac{2}{3}x + 2$

Use the following linear equation to answer question 12 and 13. Show your work in the space provide.

$$3x + 2y = 18$$
$$-3x \qquad -3x$$
$$2y = -3x + 18$$
$$\frac{2y}{2} = \frac{-3x}{2} + \frac{18}{2}$$
$$Y = -\frac{3}{2}x + 9$$

12. What is the **slope** of a line **parallel** (same) to the above line? $-\frac{3}{2}$

13. What is the **slope** of a line **perpendicular** (flip the slope and change the sign) to the above line? $\frac{2}{3}$

14. Write an **equation** of a line **parallel** to the line y = $\frac{2}{3}$x + 1 with a y-**intercept of 9**? $y = \frac{2}{3}x + 9$

15. Write an **equation** of a line **perpendicular** to the line y = - $\frac{6}{7}$x – 5 with a **y-intercept of 7**? $y = \frac{7}{6}x + 7$

Find the slope of the line passing through the given points. Show your work in the space provide. Remember your integer rules.

16. (0, 6) (4, 0)

$\frac{0-6}{4-0} = \frac{0+-6}{4} = \frac{-6}{4} = \frac{-3}{2}$

$\frac{-18+19}{14+6} = \frac{1}{20}$

17. (2, 4) (4, 8)

$\frac{8-4}{4-2} = \frac{4}{2} = 2$

$\frac{-2}{7}$

18. (-3 ,5) (2, 5)

$\frac{5-5}{2-(-3)} = \frac{0}{2+3} = \frac{0}{5}$ = Zero

19. (-6, -19) (14, -18

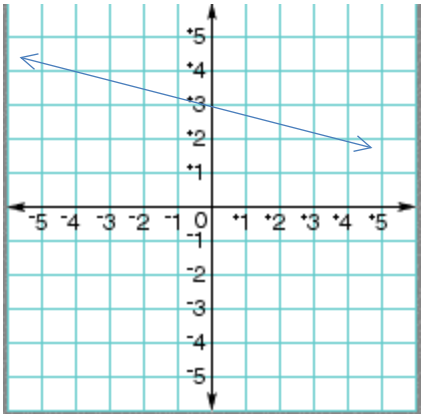
$\frac{-18-(-19)}{14-(-6)} =$

20. (-20, 17) (8, 9)

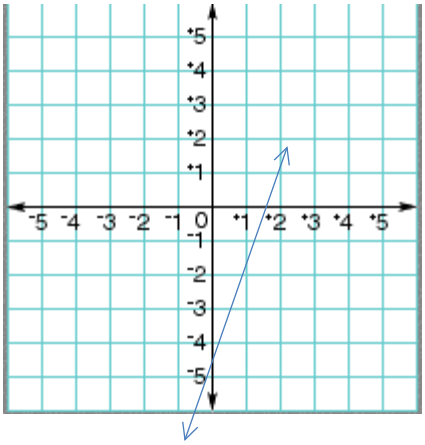
$\frac{9-17}{8-(-20)} = \frac{9+-17}{8+20} = \frac{-8}{28} =$

Graph the following equations. Graphs could not be shown

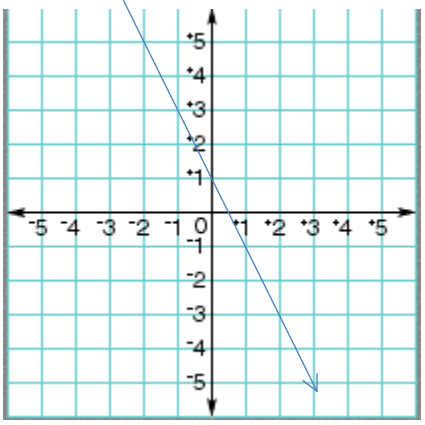
21. $y = -\frac{1}{4}x + 3$



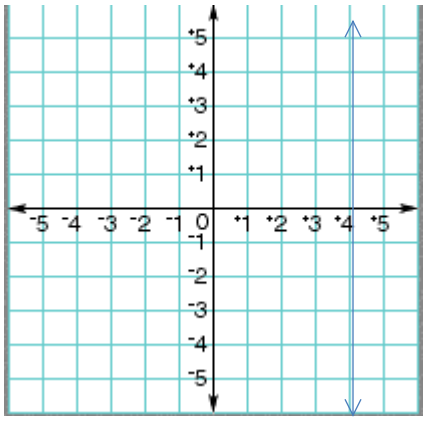
22. $y = 3x - 5$



23. $y = \frac{-5}{2}x$



24. $X = 4$

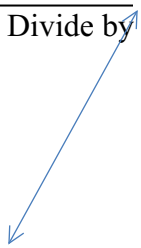


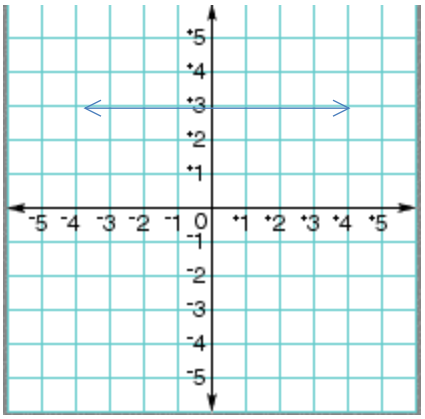
25. $y = 3$

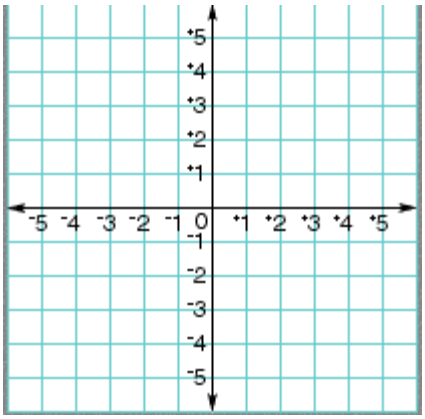
26. $2x - y = -4$ Not in slope intercept form

$-2x \quad -2x$

$-y = -2x - 4$ Divide by -1 $y = 2x + 4$







Determine the slope of each line using $\frac{Rise}{Run}$, give the y-intercept and write the equation of each line.

27. m = _____1_____

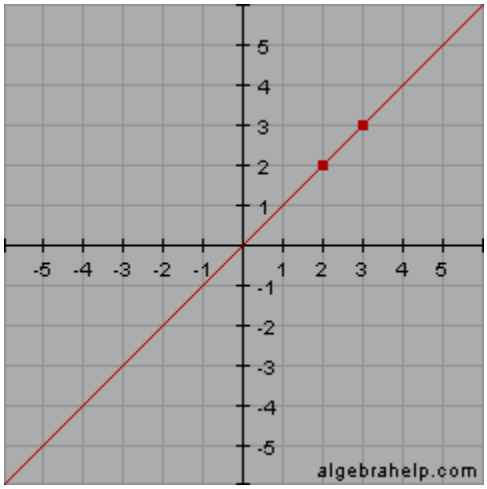
Y-intercept= _____0____

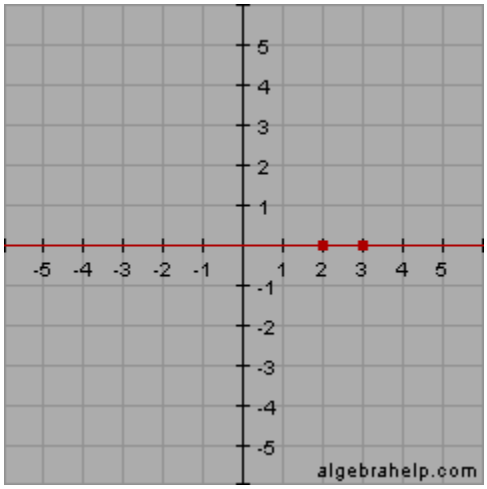
Equation of the line= ____y= x____

28. m = _____Undefined _____

y- intercept= _____

Equation of the line= _____





29. m = _____$\frac{2}{2}$ = 1_____

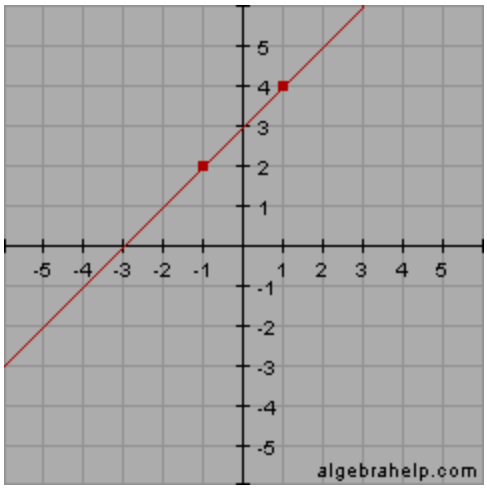
y-intercept= _____3_____

Equation of the line= ____y= x+ 3__

30. m = ____zero_____

y- intercept= _____

Equation of the line= _____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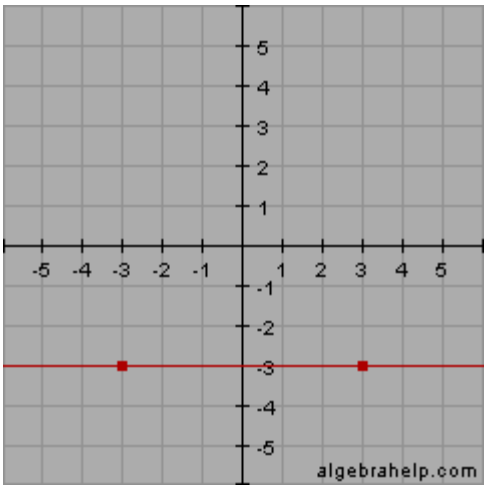
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