

key  
Unit 7 Test Study Guide

1. Find the slope of a line that passes through (-2, 6) and (3, 8).

$$\frac{6-8}{-2-3} = \frac{-2}{-5} = \boxed{\frac{2}{5}}$$

2. Find the slope of a line that passes through (5, 8) and (3, 6).

$$\frac{8-6}{5-3} = \frac{2}{2} = \boxed{1}$$

3. Find the slope of a line that passes through (2, 6) and (2, 9).

$$\frac{6-9}{2-2} = \frac{-3}{0} = \boxed{\text{undefined}}$$

4. Find the slope of a line that passes through (4, 6) and (3, 6).

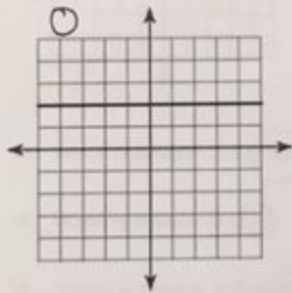
$$\frac{6-6}{4-3} = \frac{0}{1} = \boxed{0}$$

5. Find the slope of a line that passes through (-1, 5) and (5, 4).

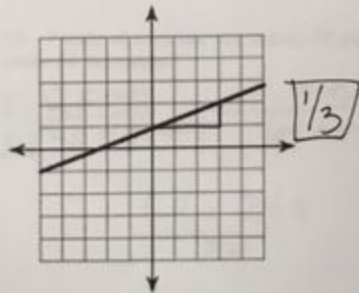
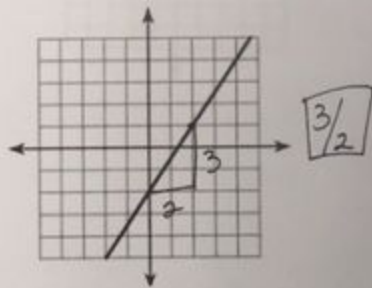
$$\frac{5-4}{-1-5} = \frac{1}{-6} = \boxed{-\frac{1}{6}}$$

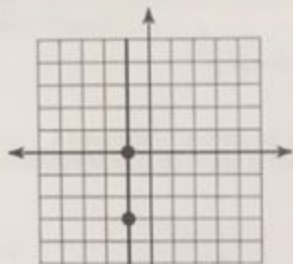
Find the slope of each.

6.

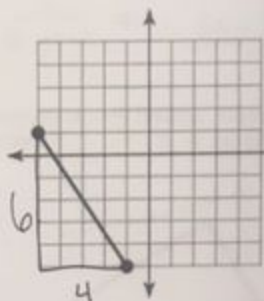


7.

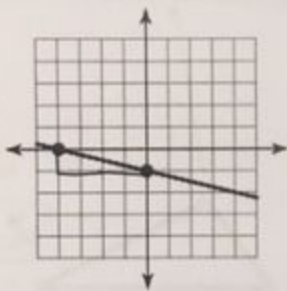




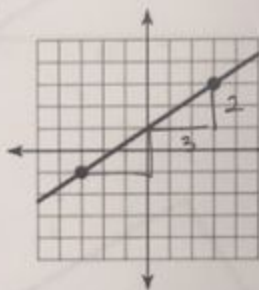
undefined



$$-\frac{3}{2}$$



$$-\frac{1}{4}$$



$$\frac{2}{3}$$

13. Which is steeper  $\frac{2}{3}$  or  $\frac{3}{2}$ ?

14. Which is steeper  $-5$  or  $4$ ?

15. Which is steeper  $\frac{1}{10}$  or  $\frac{2}{5}$ ?

16. 2 cups of cupcake mix makes 48 cupcakes. How much mix do I need to make 64 cupcakes?

$$1 \frac{2 \text{ cups}}{48 \text{ cupcakes}} = \frac{x \text{ cups}}{64 \text{ cupcakes}}$$

$$\frac{64}{24} = 24x$$

$$\frac{64}{24} = \frac{32}{12} = \frac{16}{6} = \frac{8}{3} = 2\frac{2}{3} \text{ cups}$$

17. 2lbs of carrots feed 5 goats. How many pounds of carrots do I need to feed 18 goats?

$$\frac{2 \text{ lbs}}{5 \text{ goats}} = \frac{x}{18 \text{ goats}}$$

$$\frac{5x = 36}{5}$$

$$x = 7\frac{1}{5} \text{ lb}$$

18. A baby kitten cat drink 1.5 oz of formula at each feeding. How many ounces of formula do I need to feed 6 kittens?

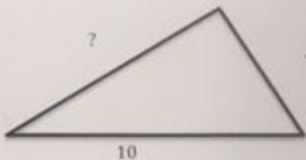
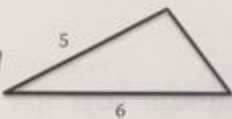
$$1.5 \times 6 =$$

$$9 \text{ oz}$$

19.

$$\frac{25}{3}$$

$$8\frac{1}{3}$$

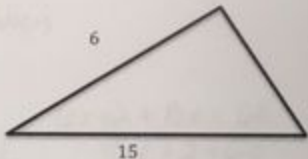
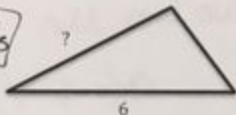


$$\frac{5}{6} = \frac{x}{10}$$

$$\frac{50 = 6x}{6}$$

20.

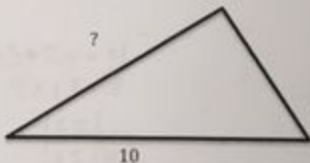
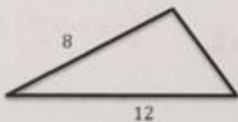
$$\frac{36}{15} = 2\frac{4}{5}$$



$$\frac{x}{6} = \frac{6}{15}$$

$$\frac{36 = 15x}{15}$$

21.



$$\frac{8}{12} = \frac{x}{10}$$

$$\frac{2}{3} = \frac{x}{10}$$

$$6\frac{2}{3}$$

$$\frac{20 = 3x}{3}$$

$$22. \quad 5 - (2x - 4) = 5x + 3$$

$$5 - 2x + 4 = 5x + 3$$

$$\begin{array}{r} +2x \rightarrow \\ +2x \rightarrow \end{array}$$

$$\frac{5 + 1 = 7x}{6 = 7x}$$

$$x = \frac{6}{7}$$

$$23. \quad 4x + 3 = 4x - 2$$

$$+3 = -2$$

NO Solution

$$24. \quad 5x + 1 = 5x + 1$$

All real numbers

$$25. \quad 3x + 4 = -(3x - 4)$$

$$3x + 4 = 3x + 4$$

all real numbers

$$26. \quad \left(\frac{3x+1}{5} + \frac{2x}{2} = 6\right) 10$$

$$\frac{30x+10}{5} + \frac{20x}{2} = 60$$

$$\begin{aligned} 60x + 2 + 10x &= 60 \\ 160x + 2 &= 60 \\ 160x &= 58 \\ \frac{160x}{160} & \end{aligned}$$

$$x = \frac{58}{160} = \frac{29}{80}$$

$$\boxed{3 \frac{5}{8}}$$

$$27. \quad \left(\frac{2x+3}{4} + \frac{x}{2} = 1\right) 4$$

$$2x + 3 + 2x = 4$$

$$4x + 3 = 4$$

$$4x = 1$$

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

$$28. \quad \text{Simplify: } \frac{6+2(4)-6}{5-10(3+1)}$$

$$\frac{6 + \cancel{2 \cdot 4} - 6}{5 - 10 \cdot 4} = \frac{6 + 8 - 6}{1/2 \cdot 4} = \frac{8}{2} = \boxed{4}$$

29. Simplify:  $\frac{6+2-8(2)}{2-6+3(2)}$

$$\frac{\begin{array}{l} 6 + 1/4 \cdot 2 \\ \cancel{6} + 1/2 \\ \underline{2 - 6 \div 3 \cdot 2} \end{array}}{2 - 2 \cdot 2} = \frac{6 + 1/2}{2 - 4} = \frac{6.5}{-2} = \boxed{-3\frac{1}{4}}$$