

Identify each pair of angles as corresponding, alternate interior, alternate exterior, or same-side interior. (2 points each)

1)

Corresponding LS

Find the measure of each angle indicated. (5 points)

2)

$x + 56 = 180$
 $x = 124$

Solve for x . (5 points each)

3)

$13x + 13 = 15x - 5$
 $13x + 18 = 15x$
 $18 = 2x$
 $9 = x$

Find the measure of the indicated angle that makes lines u and v parallel. (5 points each)

4)

$x = 62$

Find the value of x that makes lines u and v parallel. (5 points each)

5)

$(53) + (14x + 1) = 180$
 $14x + 54 = 180$
 $14x = 126$
 $x = 9$

6)

$12x + 7 = 11x + 17$
 $x + 7 = 17$
 $x = 10$

Solve for x . (5 points each)

7)

$(x + 57) + 81 + 52 = 180$
 $x + 190 = 180$
 $x = -10$

8)

$95 = (x + 13) + (4x + 22)$
 $95 = 5x + 35$
 $60 = 5x$
 $12 = x$

Write the equation of a line with the given information.

16) Slope = $\frac{5}{4}$, y-intercept = -4

Point	Slope	Point-Slope form
$(0, -4)$	$m = \frac{5}{4}$	$y - y_1 = m(x - x_1)$
		$y + 4 = \frac{5}{4}(x - 0)$

17) through: $(-5, 3)$ and $(1, 5)$

Point	Slope	Point-Slope form
$(1, 5)$	$m = \frac{\Delta y}{\Delta x}$	$y - y_1 = m(x - x_1)$
	$= \frac{(3) - (5)}{(-5) - (1)}$	$y - 5 = \frac{1}{3}(x - 1)$
	$= \frac{-2}{-6}$	
	$m = \frac{1}{3}$	

18) through: $(3, 2)$, parallel to $y = \frac{2}{3}x - 1$

Point	Slope	Point-Slope form
$(3, 2)$	$m = \frac{2}{3}$	$y - y_1 = m(x - x_1)$
	$\perp m = \frac{2}{3}$	$y - 2 = \frac{2}{3}(x - 3)$

19) through: $(-5, -4)$, perp. to $y = -\frac{5}{9}x - 2$

Point	Slope	Point-Slope form
$(-5, -4)$	$m = -\frac{5}{9}$	$y - y_1 = m(x - x_1)$
	$\perp m = \frac{9}{5}$	$y + 4 = \frac{9}{5}(x + 5)$

ALGEBRA REVIEW: Solve each equation. (1 point each)

20) $-40 = 8 + 4p$
 $-48 = 4p$
 $-12 = p$

21) $2p - 8p = -2p + 16$
 $-6p = -2p + 16$
 $-4p = 16$
 $p = -4$

ALGEBRA REVIEW: Find each product. (1 point each)

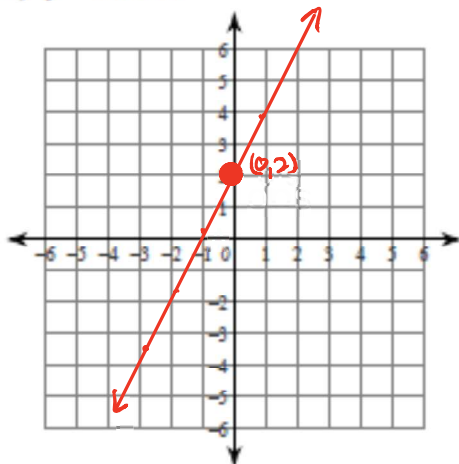
22) $-2n(-5n + 6) = 10n^2 - 12n$

ALGEBRA REVIEW: Factor the common factor out of each expression. (1 point each)

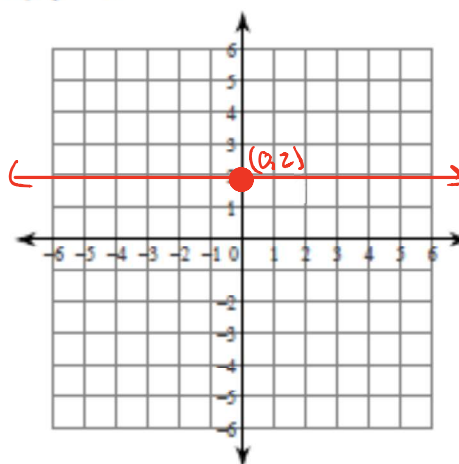
23) $-4b - 40b^{10} = -4b(1 + 10b^9)$

ALGEBRA REVIEW: Sketch the graph of each line. (1 point each)

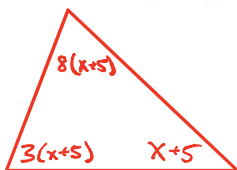
24) $y = 2x + 2$



25) $y = 2$



1) In another triangle one angle has $(x + 5)^\circ$ and the other two angles are three times and eight times that angle. How many degrees are in each angle?



$$8(x+5) + 3(x+5) + (x+5) = 180$$

$$12(x+5) = 180$$

$$x+5 = 15$$

$$x = 10$$

$$x+5 = 10+5 = 15$$

$$3(x+5) = 3(15) = 45$$

$$8(x+5) = 8(15) = 120$$

The angles are $15^\circ, 45^\circ, 120^\circ$

2) Mr. Kelly is trying to make some cash for his favorite hobby, collecting Barbie dolls. After one week he still owes his wife one dollar but after three weeks he has now five dollars.

$x = \text{week}$ (1 week, -\$1)
 $y = \$$ (3 weeks, \$5)

a) What's Mr. Kelly's slope (rate of change) for this situation?

$$m = \frac{\Delta y}{\Delta x} = \frac{(-\$1) - (\$5)}{(1 \text{ week}) - (3 \text{ weeks})} = \frac{-\$6}{-2 \text{ weeks}} = \$3/\text{week}$$

b) What's Mr. Kelly's y-intercept (initial value) for this situation?

Point $(3, 5)$ Slope $m = 3$ Point-slope form $y - y_1 = m(x - x_1)$

$$y - 5 = 3(x - 3)$$

$$y - 5 = 3x - 9$$

$$y = 3x - 4$$

His initial value was $-\$4$.

c) Write an equation of the line for the given situation. Graph the line.

$$y = 3x - 4$$

d) How much money would Mr. Kelly have after 2 months?

$$y = 3(8) - 4$$

$$y = 24 - 4$$

$$y = 20$$

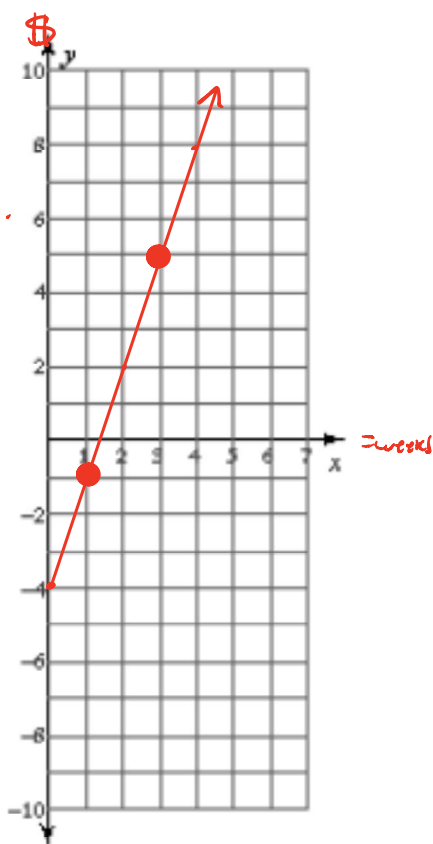
Mr Kelly has \$20 after 2 months.

4) Mr. Brust has a line that is parallel to Mr. Kelly's but he starts with \$2. What is the equation of the line for Mr. Brust?

Point $(0, 2)$ Slope $m = 3$ Point-slope form

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

$$y - 2 = 3(x - 0)$$

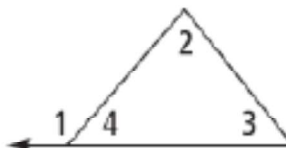


5) Use a two column proof to prove the following.

Given: $\angle 1$ is an exterior angle of the triangle.

Prove: $m\angle 1 = m\angle 2 + m\angle 3$

1) $\angle 1$ is an ext \angle	1) GIVEN
2) $m\angle 4 + m\angle 2 + m\angle 3 = 180$	2) Angle Sum Th'm
3) $\angle 1$ and $\angle 4$ are a linear pair	3) Def'n of linear pair
4) $\angle 1$ and $\angle 4$ are Supple.	4) Supplement Th'm
5) $m\angle 1 + m\angle 4 = 180$	5) Def'n of supplementary
6) $m\angle 1 + m\angle 4 = m\angle 4 + m\angle 2 + m\angle 3$	6) Subst prop. = \mathbb{R}
7) $m\angle 1 = m\angle 2 + m\angle 3$	7) Substr. prop = \mathbb{R}



Transversals

Chapter 3 Review 2

Name _____