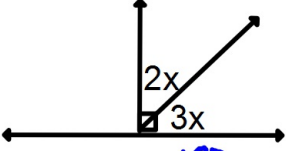


Spiral Review:

1.



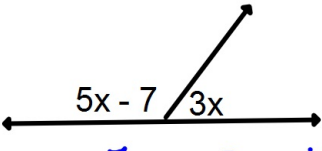
$$2x + 3x + 90 = 180$$

$$3x + 2x = 90$$

$$5x = 90$$

$$\boxed{x = 18}$$

2.



$$5x - 7 + 3x = 180$$

$$8x - 7 = 180$$

$$8x = 187$$

$$\boxed{x = 23.4}$$

3. Solve for x.

$$x - 9 = 3(x - 2)$$

$$\begin{array}{r} x - 9 = 3x - 6 \\ -3x \quad -3x \\ \hline -2x - 9 = -6 \\ +9 \quad +9 \\ \hline -2x = 3 \\ \frac{-2x}{-2} = \frac{3}{-2} \\ \boxed{x = -\frac{3}{2}} \end{array}$$

4. Solve for x.

$$x + 4 = -2(x - 1)$$

$$\begin{array}{r} x + 4 = -2x + 2 \\ +2x \quad +2x \\ \hline 3x + 4 = 2 \\ -4 \quad -4 \\ \hline 3x = -2 \\ \frac{3x}{3} = \frac{-2}{3} \\ \boxed{x = -\frac{2}{3}} \end{array}$$

Review 3.1

Identify each angle relationship.

1. $\angle 11$ and $\angle 13$

vertical

2. $\angle 13$ and $\angle 15$

alt. int

3. $\angle 18$ and $\angle 17$

linear pair

4. $\angle 12$ and $\angle 18$

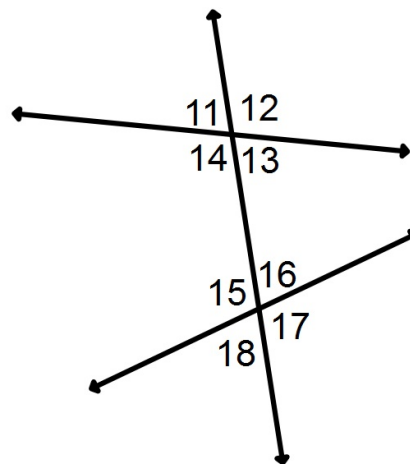
alt. ext

5. $\angle 14$ and $\angle 15$

con. int.

6. $\angle 12$ and $\angle 16$

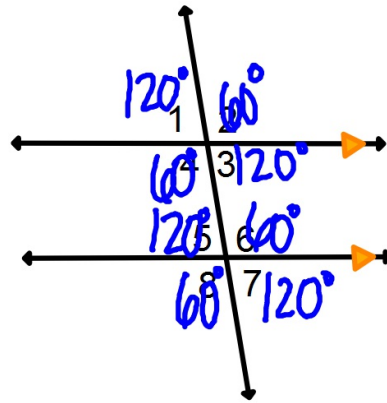
Corresponding



Review 3.2

Find the missing angle measures if $c \parallel d$, and $m\angle 4 = 60$

1. $m\angle 2$
2. $m\angle 5$
3. $m\angle 1$
4. $m\angle 8$
5. $m\angle 6$
6. $m\angle 7$



Review 3.3

1. What is the slope of a line perpendicular to $y = \frac{1}{2}x - 4$

$$m_{\perp} = -2$$

2. What is the slope of a line parallel to $y = -3x - 9$

$$m_{\parallel} = -3$$

3. Curtis and Lori calculated the slope of the line containing $A(15, 4)$ and $B(-6, -13)$. Who is correct? Explain your reasoning.

Curtis
$m = \frac{4 - (-13)}{15 - (-6)}$
$m = \frac{17}{21}$

Lori
$m = \frac{4 - 13}{15 - 6}$
$m = -\frac{9}{11}$

$$m = \frac{-13 - 4}{-6 - 15} = \frac{-17}{-21} = \frac{17}{21}$$

3.4 Equations of Lines

Slope-Intercept

$$y = mx + b$$

Steps:

1. Plug in m .
2. Plug in b .

Point- Slope

(x_1, y_1)

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

Steps:

1. Plug in m , x_1 , and y_1 .
2. Distribute.
3. + or -

Examples:

Write the equation of the line in slope-intercept form.

1. $m = 5$; $b = 9$

$$y = mx + b$$
$$y = 5x + 9$$

2. slope = $-1/3$; y-intercept = -4

$$y = mx + b$$
$$y = -\frac{1}{3}x - 4$$

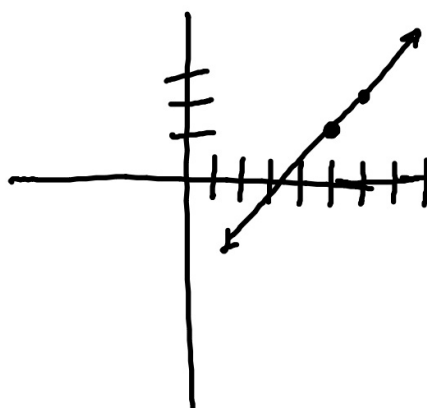
3. $m = 2$; passing through $(5, 1)$

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

$$y - 1 = 2(x - 5)$$

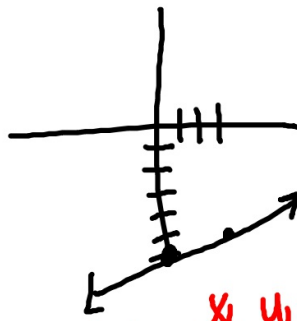
$$y - 1 = 2x - 10$$

$$y = 2x - 9$$



4. $m = 1/3$; passing through $(9, -3)$

$$\begin{aligned}y - y_1 &= m(x - x_1) \\y + 3 &= \frac{1}{3}(x - 9) \\y + 3 &= \frac{1}{3}x - 3 \\-3 & \quad -3 \\ \hline y &= \frac{1}{3}x - 6\end{aligned}$$



5. contains $(-4, 2)$ and $(8, -1)$

$$\begin{aligned}m &= \frac{-1 - 2}{8 - (-4)} \\ &= \frac{-3}{12} \\ &= -\frac{1}{4}\end{aligned}$$

$$\begin{aligned}y - y_1 &= m(x - x_1) \\y - 2 &= -\frac{1}{4}(x + 4) \\y - 2 &= -\frac{1}{4}x - 1 \\+2 & \quad +2 \\ \hline y &= -\frac{1}{4}x + 1\end{aligned}$$

6. contains $(5, 1)$ and $(-10, -14)$

$$\begin{aligned}m &= \frac{-14 - 1}{-10 - 5} = \frac{-15}{-15} = 1 \\y - 1 &= 1(x - 5) \\y - 1 &= x - 5 \\+1 & \quad +1 \\ \hline y &= x - 4\end{aligned}$$

Turn-in:

~~Board problems from Study Guide 3.4~~

P. 202 (14, 23, 28)

HW:

wkst 3.4



Exercises

Write an equation in slope-intercept form of the line having the given slope and y-intercept or given points. Then graph the line.

① $m: 2, b: -3$

② $m: -\frac{1}{2}, b: 4$

3. $m: \frac{1}{4}, b: 5$

4. $m: 0, b: -2$

5. $m: -\frac{5}{3}, (0, \frac{1}{3})$

⑥ $m: -3, (1, -11)$

Write an equation in point-slope form of the line having the given slope that contains the given point. Then graph the line.

7. $m = \frac{1}{2}, (3, -1)$

8. $m = -2, (4, -2)$

⑨ $m = -1, (-1, 3)$

10. $m = \frac{1}{4}, (-3, -2)$

11. $m = -\frac{5}{2}, (0, -3)$

⑫ $m = 0, (-2, 5)$