

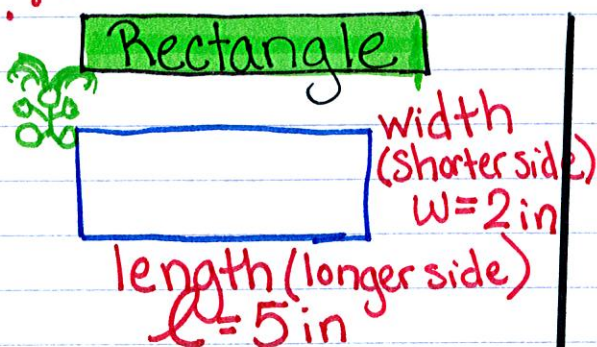
Lesson 5-1 (p 221-226)

11/16/11 Perimeter & Area of Rectangles & Triangles

Formula: an equation that shows the relationship among quantities

Perimeter: the distance around a figure

P

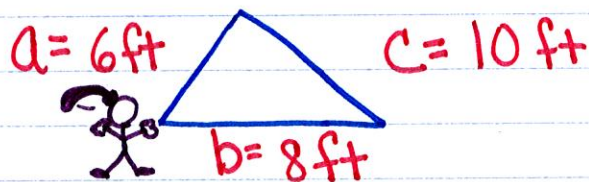


$$P = 2l + 2w$$

$$P = 2(5) + 2(2)$$

$$P = 14 \text{ in}$$

Triangle

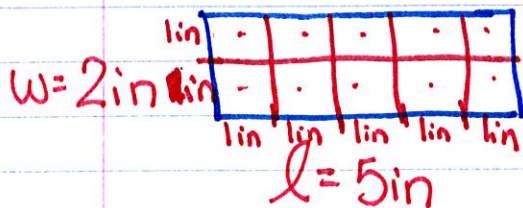


$$P = a + b + c$$

$$P = 6 + 8 + 10$$

$$P = 24 \text{ ft}$$

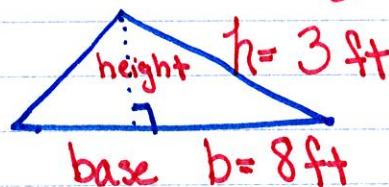
Area: the measure of the surface enclosed by a figure... measured in squares



$$A = lw$$

$$A = 5 \times 2$$

$$A = 10 \text{ sq. in or } 10 \text{ in}^2$$



$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2} \times 8 \times 3$$

$$A = 12 \text{ ft}^2$$

Lesson 5-2 (p229-233)

1/18/11 Solving Equations with Variables on each side

ex: $x + 5 = 8$
 $\quad -5 \quad -5$
 $\boxed{x = 3}$

vs.

$1 + 5x = 8x$
 $\quad -5x \quad -5x$
 $\frac{1}{3} = 3x$
 $\frac{1}{3} = x$

ex: $x + 2 + 1 = 10$
 $x + 3 = 10$
 $\quad -3 \quad -3$
 $\boxed{x = 7}$

vs.

$1 + 2x + x = 10x$
 $1 + 3x = 10x$
 $\quad -3x \quad -3x$
 $\frac{1}{7} = 7x$
 $\frac{1}{7} = x$



ex: $7y + 8 = 4x - 10$
 $\quad -4x \quad -4x$
 $3y + 8 = -10$
 $\quad -8 \quad -8$
 $\frac{3y}{3} = \frac{-18}{3}$
 $\boxed{y = -6}$

HINT!
 Work with the variables first

Lesson 5-3

11/21/11 Inequalities

(p234-239)

 Inequality: two expressions that are NOT equal 

$\circ <$	$\circ >$	$\bullet \leq$	$\geq \bullet$
"is less than"	"is greater than"	"is less than or equal to"	"is greater than or equal to"
"is fewer than"	"is more than"	"is no more than"	"is no less than"
	"exceeds"	"is at most"	"is at least"

ex: You must be at least 38 in tall to ride the roller coaster.

$$R \geq 38$$

* Find the inequality

State true or false

ex:

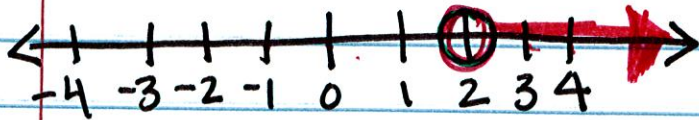
$$b + 12 \leq 15$$

$$b = -1$$

$$-1 + 12 \leq 15$$

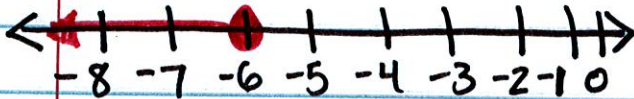
$$11 \leq 15 \rightarrow \text{True}$$

Graph each inequality on a number line.
ex: $x > 2$



* open dot ($<$, $>$)
does NOT include
the number

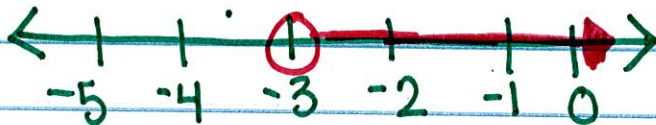
ex: $n \leq -6$



* Closed dot (\leq , \geq)
includes the number

Write the inequality.

ex:



$$x > -3$$

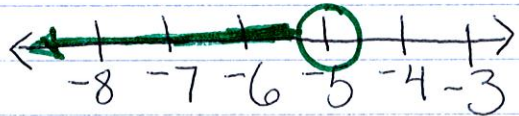
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Multiplication/Division Inequalities

ex: $\frac{7}{7}y < \frac{-35}{7}$

$$y < -5$$



ex: $(2)\frac{1}{2}x \leq -6(2)$

$$x \leq -12$$



THE EXCEPTION

multiply/divide by a negative #

ex: $\frac{-7}{-7}y < \frac{-35}{-7}$

$$y > 5$$

Flip the inequality sign when multiply/dividing by a **NEGATIVE** number



Lesson 5-5 (p248-253)

11/30/11 Solving Multi-Step Equations & Inequalities

ex: $3(d+2) = 12$
 $3d + 6 = 12$
 ~~-6~~ ~~-6~~

$$\frac{3d}{3} = \frac{6}{3}$$

$$d = 2$$

ex: $-4(x-3) > 6$
 $-4x + 12 > 6$
 ~~-12~~ ~~-12~~

$$\frac{-4x}{-4} > \frac{6-12}{-4}$$
$$x < \frac{1}{2}$$

*The sign only flips when BOTH sides are multiplied/divided by neg. #

ex: $4(x+5) = 3(2x+4)$
 $4x + 20 = 6x + 12$
 ~~$-4x$~~ ~~$-4x$~~

$$20 = 2x + 12$$

 ~~-12~~ ~~-12~~

$$\frac{8}{2} = \frac{2x}{2}$$

$$4 = x$$

ex: $5a - 8 \geq 4(a - 3)$
 $5a - 8 \geq 4a - 12$
 ~~$-4a$~~ ~~$-4a$~~

$$a - 8 \geq -12$$

 ~~$+8$~~ ~~$+8$~~

$$a \geq -4$$

ex: $-2(x-1) = 2 - 2x$

$-2x + 2 = 2 - 2x$

$\frac{-2x}{-2} = \frac{2 - 2x}{-2}$

$x = x$

The solution set is all real numbers

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

$2x - 2 = 4 + 2x$

$\frac{2x}{-2} = \frac{6 + 2x}{-2}$

$0 \neq 6$

The solution set is \emptyset

Null set: a set where no solution is possible.

