

6-1 cont.

2/9/12

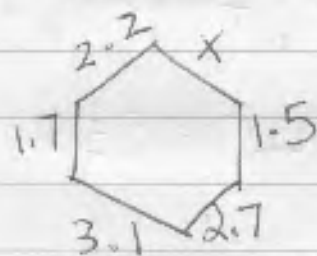
WARM-UP

You are shopping for bicycles. The type you want costs at least \$195. You have saved \$97. Find the possible amounts of money you need to get the bicycle you want. Use an inequality equation.

$$\begin{array}{r}
 97 + x \geq 195 \\
 \text{saved} \quad \text{how much more you need to save} \quad \text{at least} \\
 -97 \qquad \qquad \qquad -97 \\
 \hline
 x \geq 88
 \end{array}$$

Perimeter? add up all the sides.

If there is information w/ an inequality about the perimeter you can add up the sides and use the perimeter



$$\begin{array}{r}
 x + 3.1 + 2.2 + 1.5 + 1.7 + 2.7 \geq 13.2 \\
 x + 11.2 \geq 13.2 \\
 -11.2 \qquad \qquad -11.2
 \end{array}$$

$$\boxed{x \geq 2}$$

$$\text{perimeter} \geq 13.2$$

so x could be any # 2 or more.

2
2.2
3.1
1.5
1.7
2.7
11.2

6.2 INEQUALITIES w/ Multiplication and Division

review: "product" •
 division \Rightarrow quotient

When you solve for the variable you have to flip the inequality if you multiply or divide both sides by a ~~number~~ negative.

ie: the product of -9 and X is no more than 45.

$$\begin{aligned} & \downarrow \leq \\ & -9 \cdot X \leq 45 \\ & \frac{-9}{-9} \cdot X \leq \frac{45}{-9} \\ & X \geq -5 \end{aligned}$$

need to flip inequality \swarrow

Read problem #38 on page 366. Split into two groups pass out strips of paper to try out the activity.

Maakai: project presentation / game.

Homework

6.1 Pg. 360 27-30

6.2 Pg. 366 11-25 odd, 30, 32, 36, 37

6.3 Solving Multi-step inequalities

Steps are just like when you have an = sign but remember to flip inequality when you \cdot or \div by a negative.

ie: $14x + 5 < 7(2x - 3)$ Sometimes there is no solution!

$$\begin{array}{r} 14x + 5 < 14x - 21 \\ -14x \quad -14x \end{array}$$

$$5 < -21$$

the x's cancel this statement

is false and so no solution

Sometimes there are all real #'s for the solution. When x's cancel on both sides and the statement is true.

$$12x - 1 > 6(2x - 1)$$

$$\begin{array}{r} 12x - 1 > 12x - 6 \\ -12x \quad -12x \end{array}$$

$$-1 > -6$$

Since -1 is greater than -6 the answer is all real numbers

All real #'s means no matter what you plug in for X, the equation will be true.

AREA : Square and Rectangle Triangle

$$A = w \cdot l$$

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

use this for # 34 and 35 on pg. 373

Applications w/ inequalities, 6.3 cont.

Write a verbal model, then translate it to math inequality.

pg. 371 # 8 guided practice

Summer camp costs \$1800

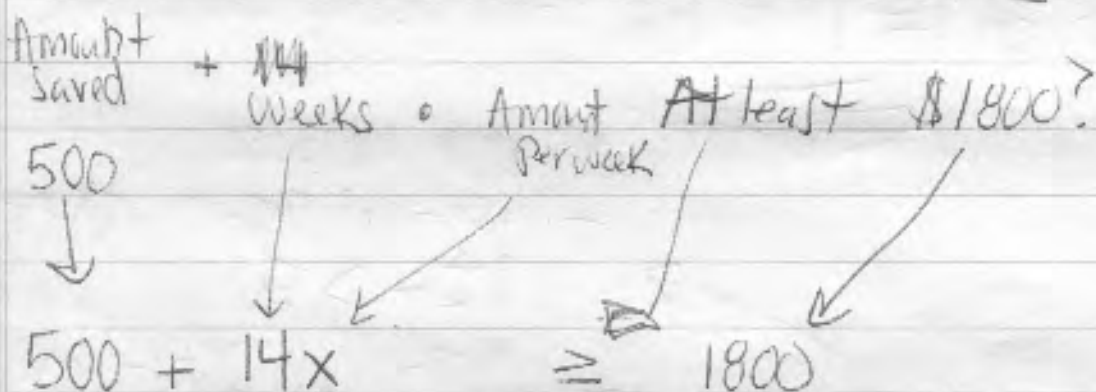
You saved \$500 so far.

You have 14 more weeks to save

What are the possible average amounts

you can save per week to have at least \$1800?

$\uparrow \geq$



$$\begin{array}{r} 500 + 14x \geq 1800 \\ -500 \quad -500 \end{array}$$

$$\frac{14x \geq 1300}{14 \quad 14}$$

$$x \geq 92.86/\text{wk}$$

Homework

6.3 17-27 odd

~~30~~
~~35~~
~~40~~
~~45~~
~~50~~
~~55~~
~~60~~
~~65~~
~~70~~
~~75~~
~~80~~
~~85~~
~~90~~
~~95~~
~~100~~

* You can use a calculator now!

Solving Inequalities
Using

6-2 Multiplication and Division

Pg. 305.

You are stacking books on a shelf that has a height of 66 cm. Each book has a thickness of 4 cm.

a. Cut strips of paper 4cm tall and "stack them up" until they form a column no taller than 66 cm. How many can you fit?

b. Write + solve the inequality to find the possible numbers of books you can stack

$$\frac{4b \leq 66}{4 \quad 4} \quad b \leq 16.5 \text{ at most 16 books}$$

c. Make a graph that shows the height of the books and the graph of the

~~inequality~~

Y axis = height
X axis = books

