

## Bell Ringer

## Section 1.6

1. What is the solution of the proportion  $\frac{3}{5} = \frac{x-2}{15}$ ?  $\frac{45}{5} = \frac{5x}{5} \quad x = 9$
2. What is the solution of the proportion  $\frac{x-2}{3} = \frac{x-5}{4}$ ?  $4(x-2) = 3(x-5)$   
 $4x - 8 = 3x - 15$   
 $4x - 3x = -15 + 8$   
 $x = -7$
3. A concession stand at a baseball game sells 5 apples for \$3. What is the cost for 9 apples?  
 $\frac{a}{\$} \quad \frac{5a}{3\$} = \frac{9a}{x\$} \quad \frac{27}{5} = \frac{5x}{5} = 5.40$
4. What is the solution of  $4(2 - 3x) = 68$ ?  
 $8 - 12x = 68$   
 $-12x = 60$   
 $\frac{-12x}{-12} = \frac{60}{-12} \quad x = -5$

correct hw 1.5 1-12, 17-22

/18

$$(20) \frac{x}{5} = \frac{3}{4}(20) \quad 4x = 5(3)$$

Do 1.6 #17 together

due tomorrow:

hw 1.6: 9-13 all, 17-21 (skip 19!), 23-33 odds

$$\textcircled{7} \quad \left( \frac{4 \text{ oz}}{1 \text{ min}} \right) \left( \frac{60 \text{ min}}{1 \text{ hr}} \right) \left( \frac{1 \text{ gal}}{128 \text{ oz}} \right) = \frac{\text{gal}}{\text{hr}} \quad \frac{240 \text{ gal}}{128}$$

$$1.875 \text{ gal/hr}$$

$$\textcircled{20} \quad \frac{2 \text{ qt}}{1 \text{ min}} \left( \frac{1 \text{ min}}{60 \text{ sec}} \right) \left( \frac{1 \text{ gal}}{4 \text{ qt}} \right) = \frac{\text{gal}}{\text{sec}} = \frac{2}{240} = \frac{1}{120}$$

$$\textcircled{21} \quad \frac{75 \text{¢}}{1 \text{ hr}} \left( \frac{24 \text{ hr}}{1 \text{ day}} \right) \left( \frac{1 \text{ \$}}{100 \text{ ¢}} \right) = \frac{\text{\$}}{\text{day}}$$

$$\frac{1800}{100} = 18 \text{ ¢ / day}$$

Math Club members are selling Pi Day T-shirts for \$7.50 each. The goal is to raise \$500 by Friday. The figure at the right shows how much they have raised by Wednesday. What is the minimum number of T-shirts they must still sell in order to reach their goal? Explain your reasoning.



Not in book


**Problem 1**
**Using More Than One Step**


What are the solutions of  $9 + 4t > 21$ ? Check the solutions.

Guess some numbers before solving...

$$\begin{array}{l}
 -9 \quad | \quad -9 \\
 4t > 12 \\
 \quad \quad | \quad \quad \\
 \quad \quad | \quad \quad \\
 t > 3
 \end{array}$$

← ~~Answer~~  
3

got it pg 60

$$\text{a. } -6a - 7 \leq 17$$

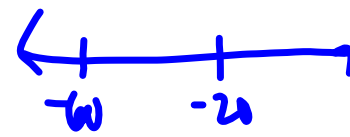
$$\begin{array}{r} \cancel{-6a} - 7 \leq 17 \\ \phantom{\cancel{-6a}} + 7 \phantom{\leq} \phantom{17} \\ \hline \cancel{-6a} \leq 24 \\ \phantom{\cancel{-6a}} \phantom{\leq} \phantom{24} \\ \hline \phantom{\cancel{-6a}} \phantom{\leq} \phantom{24} \\ \phantom{\cancel{-6a}} \phantom{\leq} \phantom{24} \\ \hline a \geq -4 \end{array}$$

$$\text{c. } \underline{50 > 0.8x + 30}$$

$$\text{b. } -4 < 5 - 3n$$

$$\begin{array}{r} -4 < 5 - 3n \\ \phantom{-4} - 5 \phantom{<} \phantom{5} \\ \hline -9 < -3n \\ \phantom{-9} \phantom{<} \phantom{-3n} \\ \hline n < 3 \\ \phantom{n} \phantom{<} \phantom{3} \\ \hline 3 > n \end{array}$$

$$\begin{aligned} 5 &> 1 + 3 \\ 8 &> 4 - 2 \\ 6 &> 2 \end{aligned}$$

$$\begin{aligned} 60 &> 20 \quad (-1) \\ -60 &> -20 \\ -60 &< -20 \end{aligned}$$




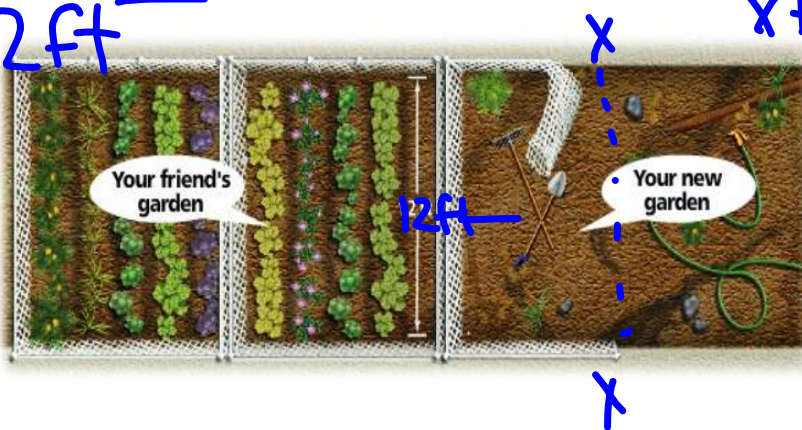
**Problem 2** Writing and Solving a Multi-step Inequality



**Geometry** In a community garden, you want to fence in a vegetable garden that is adjacent to your friend's garden. You have at most 42 ft of fence. What are the possible lengths of your garden?

$$f \leq 42 \text{ ft}$$

$$\begin{array}{r} 3 \\ 42 \\ -24 \\ \hline 18 \end{array}$$



$$x + x \leq 18$$

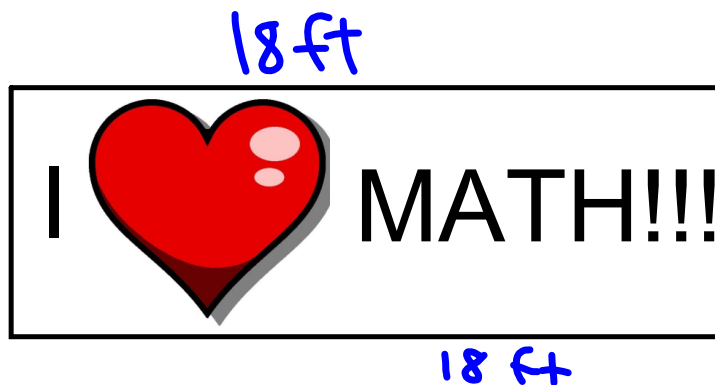
$$\frac{2x}{2} \leq \frac{18}{2}$$

$$12 \text{ ft} + x \leq 9$$



got it pg 61

You want to make a rectangular banner that is 18 ft long with a trim that goes around the entire border of the banner. You have no more than 48 ft of trim. What are the possible widths of the banner?



$$\begin{array}{r} 18 + 18 \\ 36 \\ + 12 \\ \hline 48 \end{array}$$

Not in your book

**Problem 3****Using the Distributive Property**

**Multiple Choice** Which is a solution of  $3(t+1) - 4t \geq -5$ ?

**Problem 3****Using the Distributive Property**

**Multiple Choice** Which is a solution of  $3(t + 1) \geq -9$ ?

**A** -4

**B** -6

**C** -8

**D** -10

got it pg 62

What are the solutions of  $15 \leq 5 - 2(4m + 7)$ ?

$$m \geq -3$$

$$-3 \leq m$$

$$\begin{array}{r}
 15 \leq 5 - 2(4m + 7) \\
 15 \leq 5 - 8m - 14 \\
 15 + 9 \leq -8m - 9 + 9 \\
 \frac{24}{8} \leq \frac{-8m}{-8}
 \end{array}$$

not in your book

**Problem 4****Solving an Inequality With Variables on Both Sides**

What are the solutions of  $6n - 1 > 3n + 8$ ?

got it pg 63

Find the solutions of  $3b + 12 > 27 - 2b$

## Special Systems...

$$\cancel{x} + 3 > \cancel{x} + 1$$

$$3 > 1 \quad \infty \text{ sol}$$

$$\cancel{x} - 2 < \cancel{x} + 4$$

$$-2 < 4 \quad \infty$$

$$3x + 1 \geq 3x + 1 \quad \infty$$

no sol

$$\cancel{x} + 3 < \cancel{x} + 1$$

$$3 < 1 \quad \text{no sol}$$

$$\cancel{x} - 2 > \cancel{x} + 4$$

$$-2 > 4 \quad \text{no sol}$$

$$\infty 3x + 1 \leq 3x + 1 \quad \text{no sol}$$

no sol

Not in your book

**Problem 5****Inequalities With Special Solutions**

**B** What are the solutions of  $6m - 5 > 7m + 7 - m$ ?



got it pg 64 - special systems!

$$\text{a. } 9 + 5n \leq 5n - 1$$

no sol!  $\begin{array}{r} -5n \\ 9 \leq -1 \end{array}$

$$\text{b. } 8 + 6x \geq 7x + 2 - x$$

$$\begin{array}{r} 6x + 8 \geq 6x + 2 \\ -6x \\ \hline \text{no sol } 8 \geq 2 \end{array}$$

hw 1.7 11-18 all, 19-27 odds, 37, 38