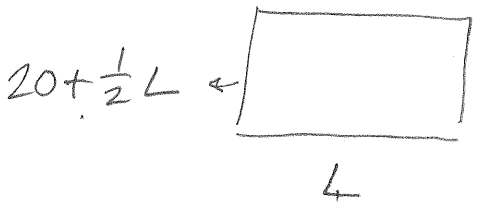
8/28/2012 - See 2.3 (cont.)
See 2.4
See 2.5

Math 1010

#30



$P = 520$

$P = 2L + 2W$

$520 = 2L + 2(20 + \frac{1}{2}L)$

#24

$F \triangleleft\triangleright D$

$\triangleright$

$F \leftrightarrow D$

See 2.4 Further Applications of Linear Equations

Example 1

Total money $5.65

total coins 25 coins

have only Nickels and Quarters

type	# of coins	amount worth	Value
Nickels	x	0.05	$0.05x$
Quarters	$25-x$	0.25	$0.25(25-x)$
	total 25 coins		5.65

$$0.05x + 0.25(25 - x) = 5.65$$

$$0.05x + 6.25 - 0.25x = 5.65$$

$$-0.20x + 6.25 = 5.65$$

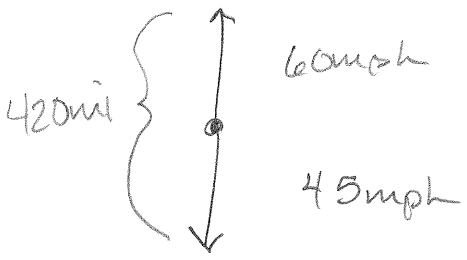
$$-6.25 \quad -6.25$$

$$\frac{-0.20x}{-0.20} = \frac{-0.60}{-0.20}$$

$$x = 3$$

3 Nickels
22 Quarters

Example
two cars leave at same time.
1 North at 60mph
1 South at 45mph
how many hours until
they are 420 mi apart



	Rate	* time	= distance
Car 1	60	x	60x
Car 2	45	x	45x
			420

$rt = d$

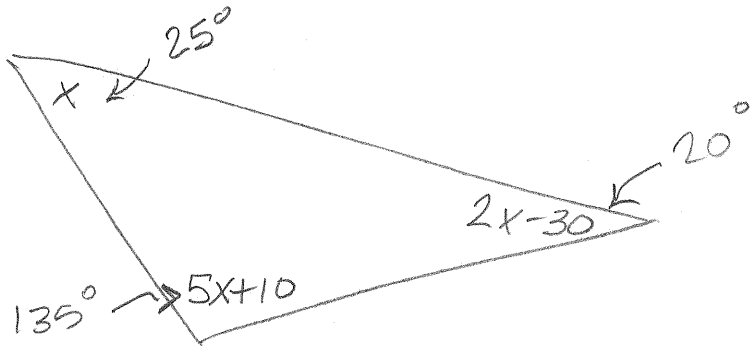
$I = Pr$

$240 + 180$

$60x + 45x = 420$

$x = 4$ hrs

triangle



$x + 5x + 10 + 2x - 30 = 180$

$8x - 20 = 180$

$+20 \quad +20$

$\frac{8x}{8} = \frac{200}{8}$

$x = 25$

25°, 20°, 135°

Sec 2.5 Linear Inequalities in one Variable

An inequality says that two expressions are not equal but they are still related.

$7 > 2$ $\quad\quad$ $x < 5$

$5x + 6 < 76$

Addition Property

if $A < B$ then

$A + C < B + C$

Multiplication Property

if $A < B$ and $C > 0$ (aka is +)

then $AC < BC$

if $A < B$ and $C < 0$

then

$AC > BC$

Steps to solve

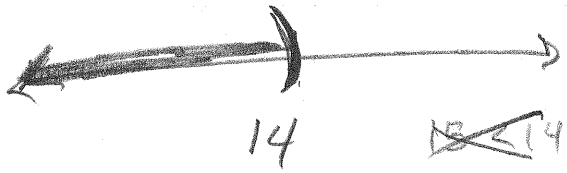
1. Simplify each side seperately
2. Isolate Variable terms on one side
3. Isolate the variable

#12 $5x + 6 < 76$

$-6 \quad -6$

$\frac{5x}{5} < \frac{70}{5}$

$x < 14$



$(-\infty, 14)$

#28 $x - 3(x+1) \leq 4x$

$x - 3x - 3 \leq 4x$

$-2x - 3 \leq 4x$

$+2x \quad +2x$

$\frac{-3}{6} \leq \frac{6x}{6}$

$-\frac{1}{2} \leq x$

$x \geq -\frac{1}{2}$

$-\frac{1}{2} \leq 2$

$[-\frac{1}{2}, \infty)$