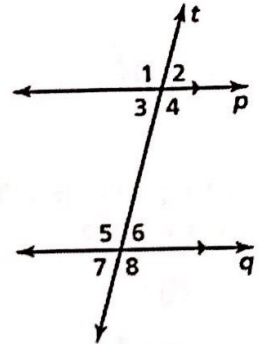


Day 6 – Algebraic Relationships with Parallel Lines

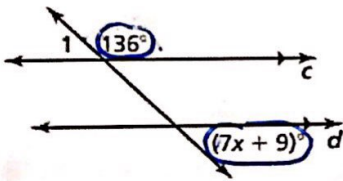
Complete the table from yesterday:

Relationships with Parallel Lines		
Angle Type	Parallel Lines	Equation Setup
Alternate Exterior Angles	Congruent	=
Alternate Interior Angles	Congruent	=
Same Side Exterior Angles	Supplementary	$_ + _ = 180$
Same Side Interior Angles	Supplementary	$_ + _ = 180$
Corresponding Angles	Congruent	=
Vertical Angles	Congruent	=



Directions: Solve for x.

a. Same Side exterior



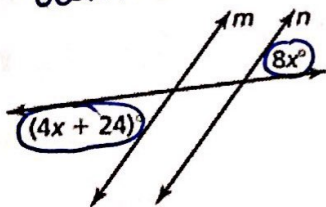
$$7x + 9 + 136 = 180$$

$$7x + 145 = 180$$

$$7x = 35$$

$$x = 5$$

c. alternate exteriors

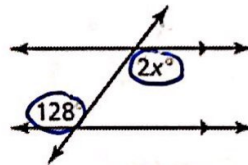


$$4x + 24 = 8x$$

$$24 = 4x$$

$$6 = x$$

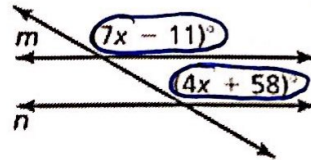
b. alternate interior



$$2x = 128$$

$$x = 64$$

d. Corresponding



$$7x - 11 = 4x + 58$$

$$3x = 69$$

$$x = 23$$

2. Find the measure of the following:

a. Solve for x:

$$4x + 22 = 5x$$

$$22 = x$$

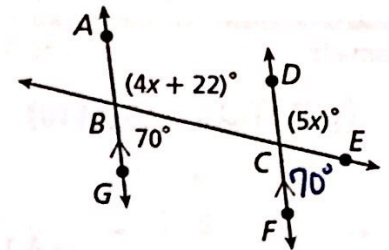
b. $m\angle ECF$

$$70^\circ$$

c. $m\angle DCE$

$$180 - 70 = 110^\circ$$

$$\text{or } 5(22) = 110^\circ$$



3. Find the measure of the following:

a. Solve for x:

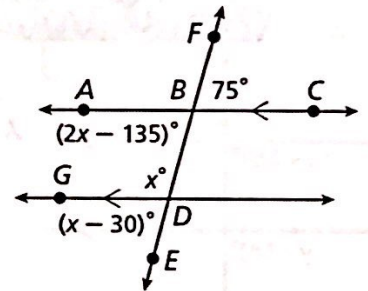
$$2x - 135 = 75$$

$$2x = 210$$

$$x = 105$$

b. $m\angle EDG$

$$105 - 30 = 75^\circ$$



c. How did you solve for x? What is another way you could have solved for x?

I used vertical angles ($2x - 35$ and 75). I could have also used corresponding ($2x - 135$ and $x - 30$) or alternate exterior angles ($x - 30$ and 75)