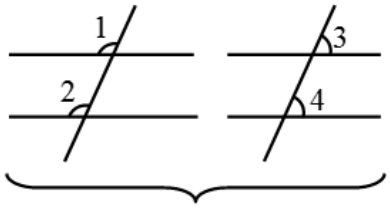
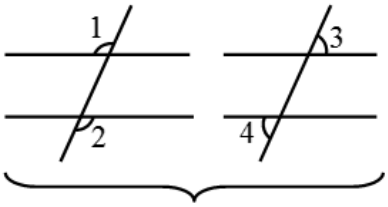
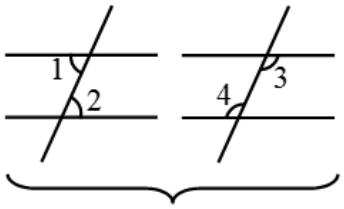
Lesson 2: Parallel Lines Cut by a Transversal and Algebra (Day 1)



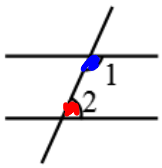
Corresponding angles



Exterior Alternate angles



Interior alternate angles

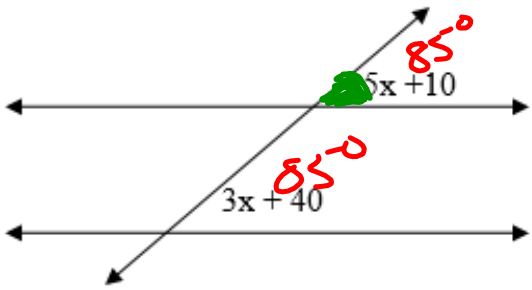


Cointerior angles

Do Now

Find the measures of the indicated angles. Show all work!

1.



Geometry Fact: Corresponding ∠'s.

Equation:

$3x+40=5x+10$

$-3x \quad -3x$

$40=2x+10$

$-10 \quad -10$

$30=2x$

$\frac{30}{2}=\frac{2x}{2}$

$15=x$

$5x+10$

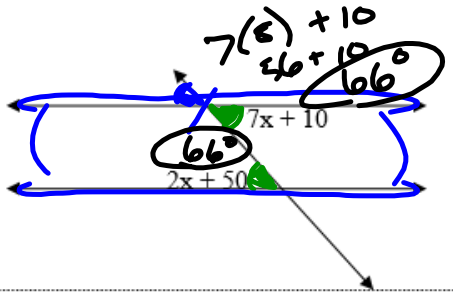
$5(15)+10$

$75+10=85^{\circ}$

85°

85°

2.



Geometry Fact: Alternate Interior ∠'s

Equation:

$7x + 10 = 2x + 50$

$-2x \quad -2x$

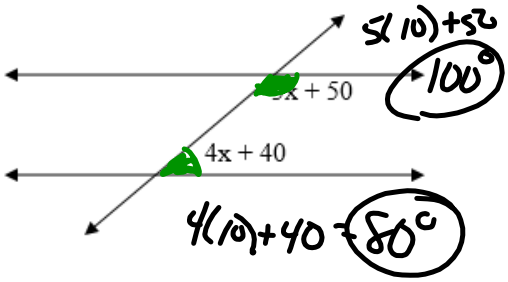
$5x + 10 = 50$

$-10 \quad -10$

$\frac{5x}{5} = \frac{40}{5}$

$x = 8$

3.



Geometry Fact: Supplementary ∠'s

Equation:

$5x + 50 + 4x + 40 = 180$

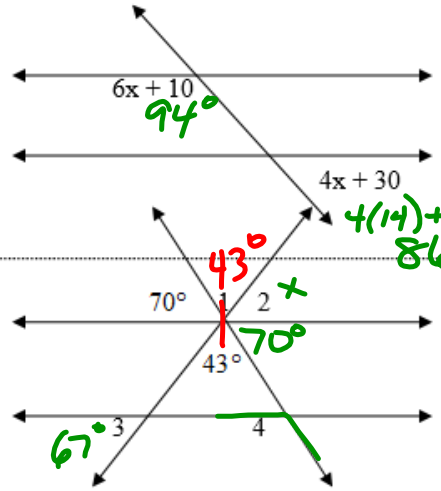
$9x + 90 = 180$

$-90 \quad -90$

$\frac{9x}{9} = \frac{90}{9}$

$x = 10$

4.



Geometry Fact:
Supplementary ∠'s
Equation:
$6x+10+4x+30=180$
$10x+40=180$
$-40 \quad -40$
$10x = 140$
$\frac{10x}{10} = \frac{140}{10}$
$x = 14$

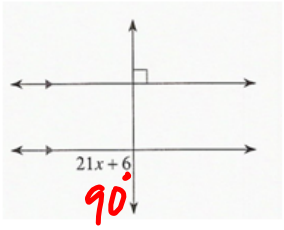
5.

Geometry Facts:

m∠1 = 43° m∠2 = 67°
m∠3 = 67° m∠4 = 110°

$43+70+x=180$
$113+x=180$
$-113 \quad -113$
$x = 67$

6.



Geometry Fact: Alt. Exterior ∠'s

Equation:

$90 = 21x + 6$

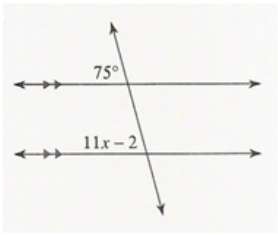
$-6 \quad -6$

$84 = 21x$

$\frac{84}{21} = \frac{21x}{21}$

$4 = x$

7.



Geometry Fact: Corresponding ∠'s

Equation:

$75 = 11x - 2$

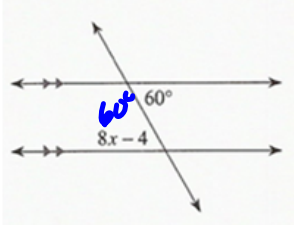
$+2 \quad +2$

$77 = 11x$

$\frac{77}{11} = \frac{11x}{11}$

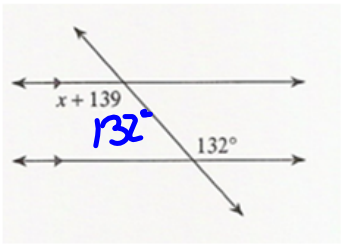
$7 = x$

8.

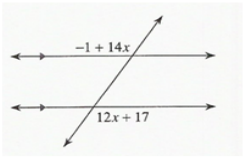


Geometry Fact:
Alt. Interior ∠'s
Equation:
$60 = 8x - 4$
$+4 \quad +4$
$\frac{64}{8} = \frac{8x}{8}$
$8 = x$

9.

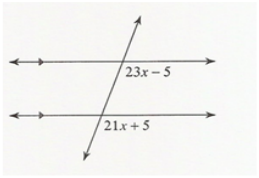


Geometry Fact:
Alt. Interior ∠'s.
Equation:
$x + 139 = 132$
$-139 \quad -139$
$x = -7$

10. 

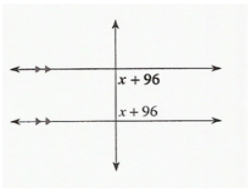
Geometry Fact:

Equation:

11. 

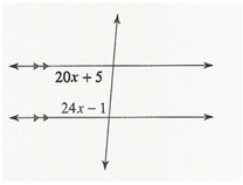
Geometry Fact:

Equation:

12. 

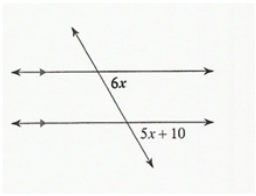
Geometry Fact:

Equation:

13. 

Geometry Fact:

Equation:

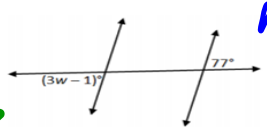
14. 

Geometry Fact:

Equation:

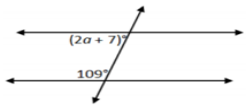
Each diagram is formed by two parallel lines and a transversal. Write the equation you can use to find the value of the variable. Then find the value of the variable.

1. $3w-1=77$



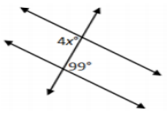
Alt. Exterior ∠'s

2. $2a+7+109=180^\circ$



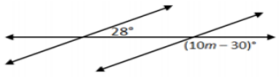
Supplementary ∠'s

3. $4x=99$



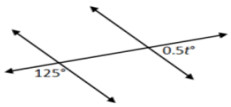
Alt. Exterior ∠'s

4. $28+10m-30=180$



Supplementary ∠'s

5. $125+0.5t=180$



Supplementary ∠'s.

What were the different Geometry facts used in this lesson?

Do we know any more angle facts?