#1, 2, 3, 5, 6, 7, 8, 11, 14, 15, 16

#1 A

$$\frac{x = -4}{y \quad 3}$$

$x = -2$

$y = 3$

$$3(\overset{-2+3}{x+y}) = \overset{3}{y}$$

$$3(1) = 3$$

$$3 = 3$$

$$8\left(\frac{1}{8}x-\frac{1}{8}y\right)=19$$

$$\frac{8}{1}\times\frac{1}{8}=\frac{8}{8}=1$$

$$\frac{4}{1}\times\frac{1}{2}=\frac{4}{2}=2$$

$$\frac{4}{1}\times\frac{1}{4}=\frac{4}{4}=1$$

4×10

$$-1x+1y=-152$$

$$2x-1y=40$$

$$-1(1x-1y=152)$$

$$1x=-112$$

$$-3\cancel{0}E - 30H = -1500$$

$$\cancel{3}0E + 60H = 1{,}950$$

$$-30(E + H = 50)$$

$$\begin{array}{r} 30 \\ \times\ 50 \\ \hline 1500 \end{array}$$

$$\frac{30H}{30} = \frac{45\cancel{0}}{3\cancel{0}}$$

$$3\overline{)45}$$

$$10x$$

$$(1x+5)(2x-3)$$

$$\begin{array}{r} -3x \\ \hline 7x \end{array}$$

$$\frac{3}{2} + \frac{5}{1}$$

$$\frac{3}{2} \quad \frac{3}{2}$$

$$+\ \frac{5}{1} \times \frac{2}{2} = \frac{10}{2}$$

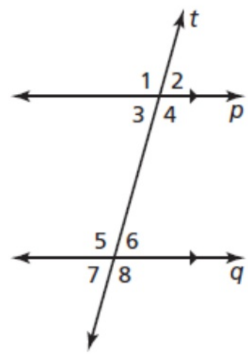
$$x+5=0$$
$$\underline{-5 \quad -5}$$
$$x=-5$$

$$2x-3=0$$
$$\underline{+3 \quad +3}$$
$$\frac{2x}{2}=\frac{3}{2}$$
$$x=\frac{3}{2}$$

Theorems

Theorem 3.1 Corresponding Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of corresponding angles are congruent.



Examples In the diagram, $\angle 2 \cong \angle 6$ and $\angle 3 \cong \angle 7$.

Theorem 3.2 Alternate Interior Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of alternate interior angles are congruent.

Examples In the diagram, $\angle 3 \cong \angle 6$ and $\angle 4 \cong \angle 5$.

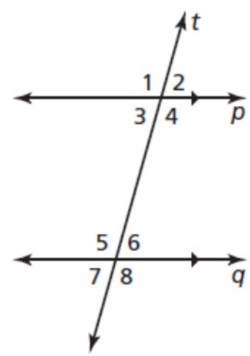
Theorem 3.3 Alternate Exterior Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles are congruent.

Examples In the diagram, $\angle 1 \cong \angle 8$ and $\angle 2 \cong \angle 7$.

Theorem 3.4 Consecutive Interior Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of consecutive interior angles are supplementary.



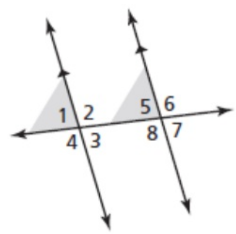
Examples In the diagram, $\angle 3$ and $\angle 5$ are supplementary, and $\angle 4$ and $\angle 6$ are supplementary.

Notes:

a. Corresponding Angles Theorem (Theorem 3.1)

If two parallel lines are cut by a transversal, then the pairs of corresponding angles are congruent.

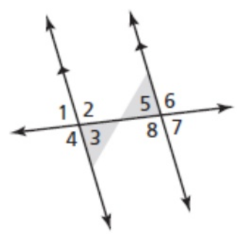
Converse



b. Alternate Interior Angles Theorem (Theorem 3.2)

If two parallel lines are cut by a transversal, then the pairs of alternate interior angles are congruent.

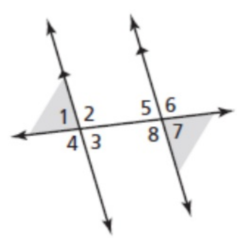
Converse



c. Alternate Exterior Angles Theorem (Theorem 3.3)

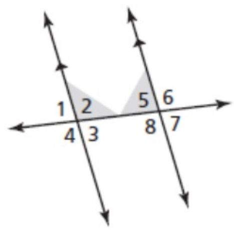
If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles are congruent.

Converse



d. Consecutive Interior Angles Theorem (Theorem 3.4)

If two parallel lines are cut by a transversal, then the pairs of consecutive interior angles are supplementary.



Converse