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<u>Instructions</u>

- Pages 3 is designed to be used as in class notes to introduce the angle pairs created by parallel lines and transversals. Answer key located on page 8.

- Pages 4&5 create a foldable that students can put in their notebooks to help them practice recognizing the different types of angle pairs. Directions are on the pages and no answer key is needed/included.

- Page 6 can be used as notes or as a worksheet to help students practice identifying angle pairs and finding missing angle measurements. Answer key located on page 9.

- Page 7 can be used as notes or as a worksheet to help students practice writing & solving equations for congruent and supplementary angle pairs. Answer key located on page 10.
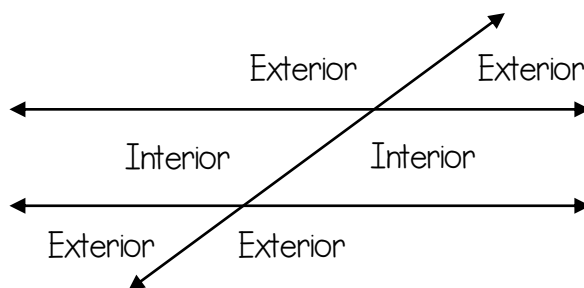
# Angle Pairs Created by Parallel Lines Cut by a Transversal

Vocabulary

• _____ - A line that crosses parallel lines to create pairs of congruent and supplementary angles

• _____ - Having the same measurement

• _____ - Angles that add up to 180°

Angle Pairs in Parallel Lines Cut by a Transversal

Exterior   Exterior
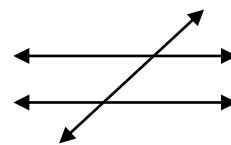
Interior   Interior

Exterior   Exterior

• _____ - Angles that lie on the same side of the transversal and on the same side of the parallel lines. These angles are in the same "corner" and are congruent
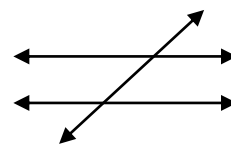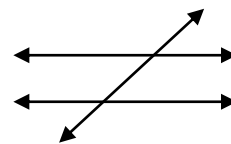
• _____ - Angles on opposite sides of the transversal and inside the two parallel lines. These angles are congruent
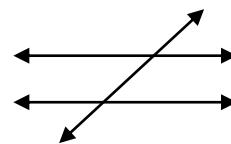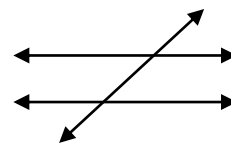
• _____ - Angles on opposite sides of the transversal and outside the parallel lines. These angles are congruent
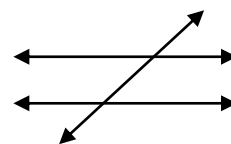
• _____ - Angles on the same side of the transversal and inside the parallel lines. These angles are supplementary

• _____ - Angles on the same side of the transversal and outside the parallel lines. These angles are supplementary

• _____ - Angles that are across from each other and are formed by any intersecting lines (not just parallel lines and transversals). These angles are congruent.

Angle Pairs Created by Parallel Lines Cut by a Transversal

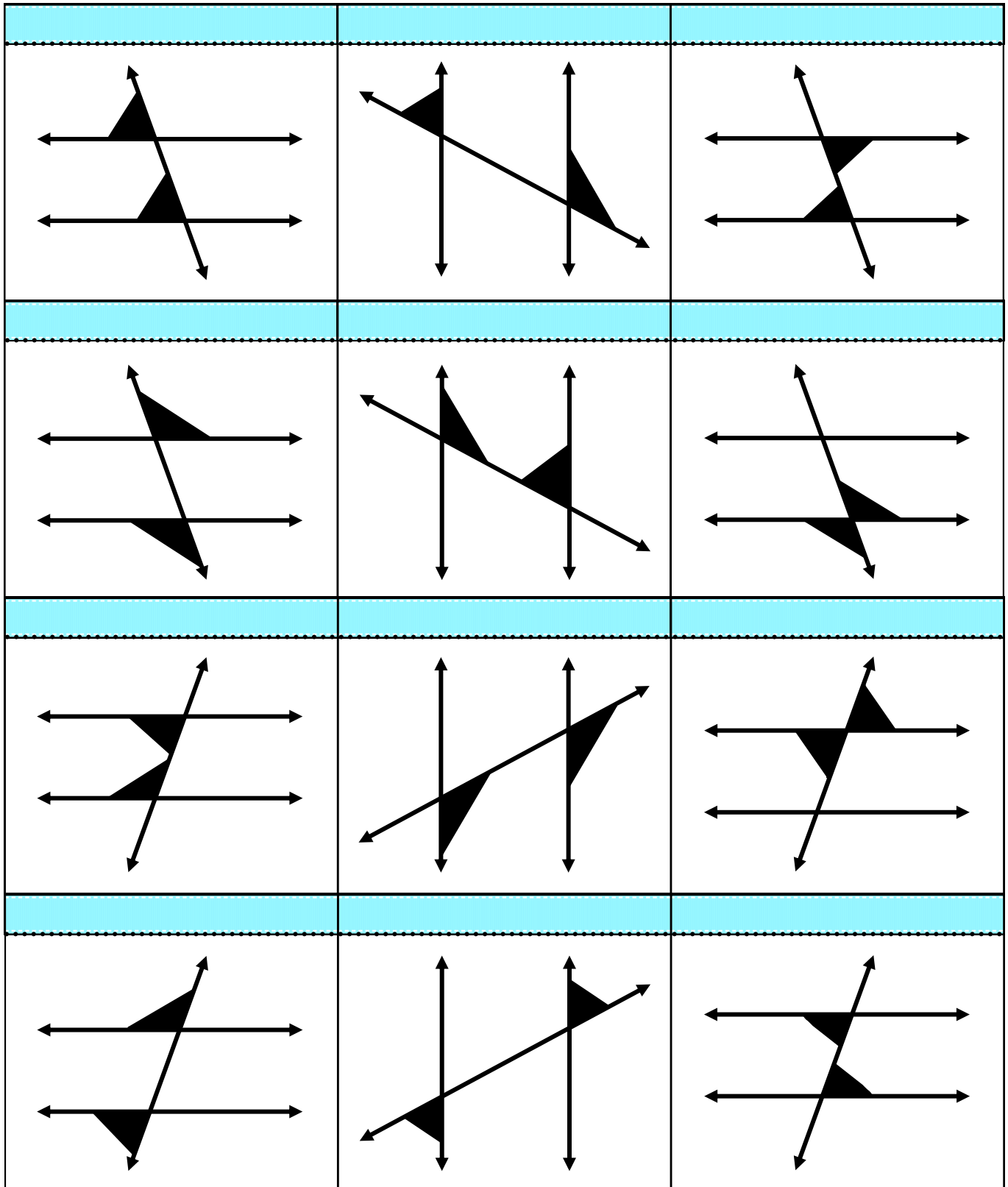Cut out the squares on page 5 and glue them to the corresponding square

Fill in "Congruent" or "Supplementary" for each box to say what the angles are

Glue Flap Here	Glue Flap Here	Glue Flap Here
Corresponding Angles The angles are _____	Same-Side Exterior Angles The angles are _____	Vertical Angles The angles are _____

Glue Flap Here	Glue Flap Here	Glue Flap Here
Same-Side Interior Angles The angles are _____	Alternate Interior Angles The angles are _____	Same-Side Interior Angles The angles are _____

Glue Flap Here	Glue Flap Here	Glue Flap Here
Alternate Exterior Angles The angles are _____	Vertical Angles The angles are _____	Alternate Exterior Angles The angles are _____

Glue Flap Here	Glue Flap Here	Glue Flap Here
Alternate Interior Angles The angles are _____	Same-Side Exterior Angles The angles are _____	Corresponding Angles The angles are _____

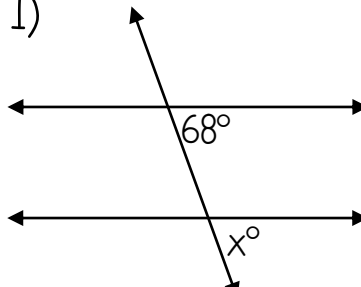# Angle Pairs Created by Parallel Lines Cut by a Transversal

1. Cut out the squares
2. Fold along the dotted line in each square to create a "flap"
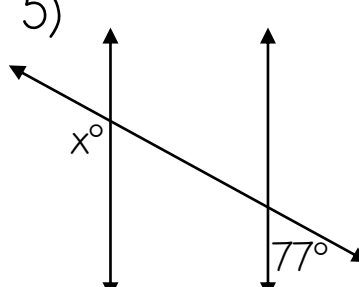3. Glue the flap to the corresponding square on page 4

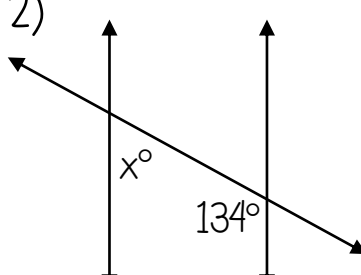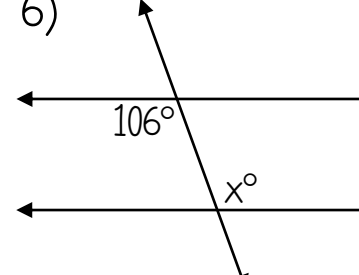*Do NOT cut the dotted lines...they are for folding*

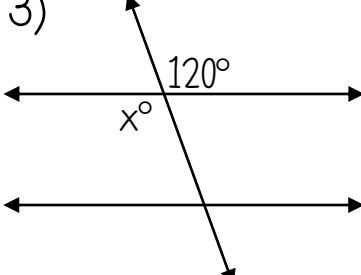# Angle Pairs Created by Parallel Lines Cut by a Transversal

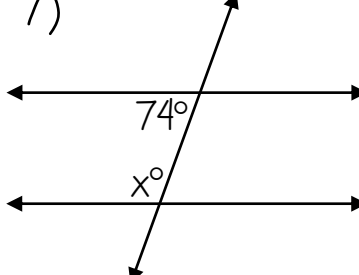For each set of angles name the angle pair and find the missing measurement

1)

68°

x°

Type of angle pair

_____

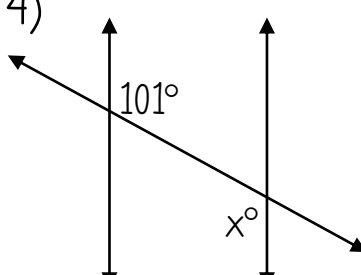These angles are

_____

so....x=_____

2)

x°

134°
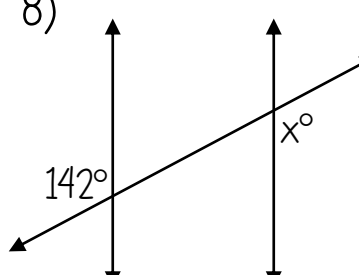
Type of angle pair

_____

These angles are

_____

so....x=_____

3)

120°

x°

Type of angle pair

_____

These angles are

_____

so....x=_____

4)

101°

x°

Type of angle pair

_____

These angles are

_____

so....x=_____

5)

x°

77°

Type of angle pair

_____

These angles are

_____

so....x=_____

6)

106°

x°

Type of angle pair

_____

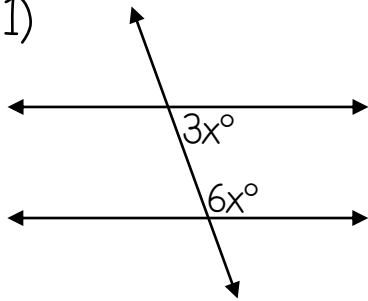These angles are

_____

so....x=_____

7)

74°

x°

Type of angle pair

_____

These angles are

_____

so....x=_____

8)

142°

x°

Type of angle pair

_____

These angles are

_____

so....x=_____

Angle Pairs Created by Parallel Lines Cut by a Transversal

For each set of angles name the angle pair, write the equation, solve the equation for x, and plug in x to find the missing angle measurements

1)

$3x°$

$6x°$

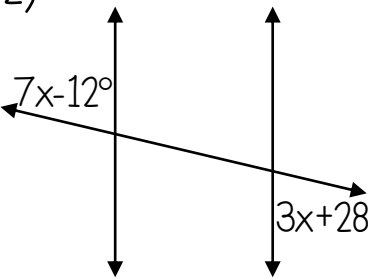Type of angle pair _____

These angles are _____

Equation _____

x=_____

Angle Measurements= _____

Show your work

2)

$7x-12°$

$3x+28°$

Type of angle pair _____
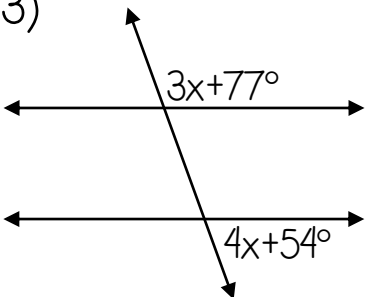
These angles are _____

Equation _____

x=_____

Angle Measurements= _____

Show your work

3)

$3x+77°$
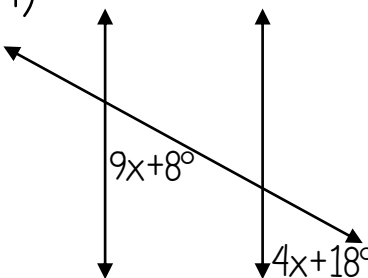
$4x+54°$

Type of angle pair _____

These angles are _____

Equation _____

x=_____

Angle Measurements= _____

Show your work

4)

$9x+8°$

$4x+18°$

Type of angle pair _____

These angles are _____

Equation _____

x=_____

Angle Measurements= _____

Show your work

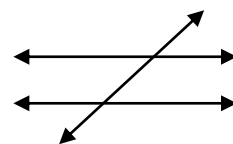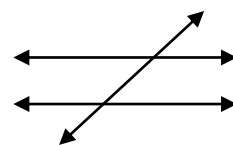# Angle Pairs Created by Parallel Lines Cut by a Transversal
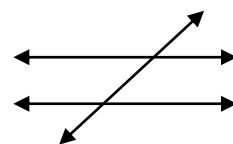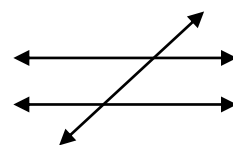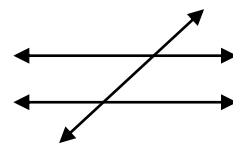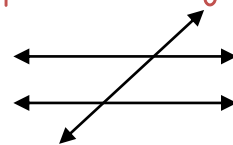
Vocabulary

- __Transversal_____ - A line that crosses parallel lines to create pairs of congruent and supplementary angles

- __Congruent_____ - Having the same measurement

- __Supplementary_____ - Angles that add up to 180°

Angle Pairs in Parallel Lines Cut by a Transversal

Exterior   Exterior

Interior   Interior
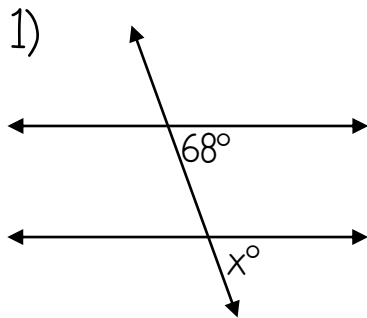
Exterior   Exterior
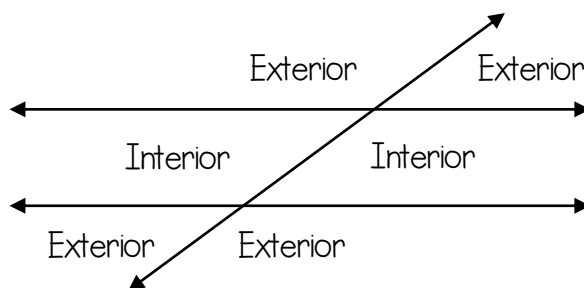
Have students color in the angle pairs on the diagrams

- __Corresponding_____ - Angles that lie on the same side of the transversal and on the same side of the parallel lines. These angles are in the same "corner" and are congruent

- __Alternate Interior_____ - Angles on opposite sides of the transversal and inside the two parallel lines. These angles are congruent

- __Alternate Exterior_____ - Angles on opposite sides of the transversal and outside the parallel lines. These angles are congruent

- __Same-Side Interior_____ - Angles on the same side of the transversal and inside the parallel lines. These angles are supplementary

- __Same-Side Exterior_____ - Angles on the same side of the transversal and outside the parallel lines. These angles are supplementary

- __Vertical_____ - Angles that are across from each other and are formed by any intersecting lines (not just parallel lines and transversals). These angles are congruent.
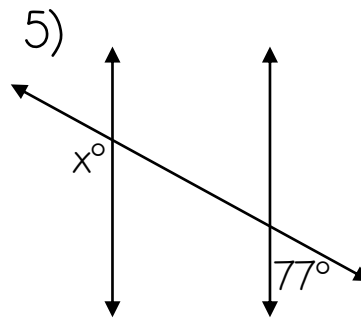
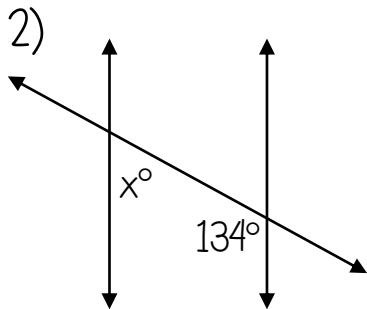# Angle Pairs Created by Parallel Lines Cut by a Transversal

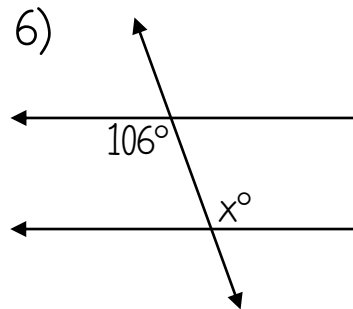For each set of angles name the angle pair and find the missing measurement

1)

68°

x°

Type of angle pair
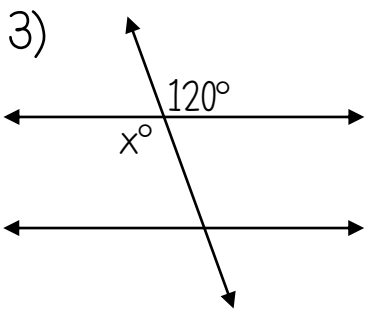_Corresponding_

These angles are
_Congruent____

so….x=__68°__

2)

x°

134°

Type of angle pair
_Same-Side Interior

These angles are
_Supplementary__

so….x=_46°__

3)

120°

x°

Type of angle pair
_Vertical____

These angles are
_Congruent____

so….x=_120°____
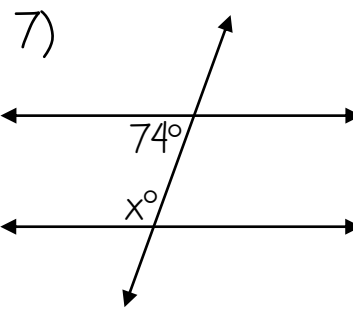
4)

101°

x°

Type of angle pair
_Alternate Interior

These angles are
_Congruent____

so….x=_101°____

5)

x°

77°

Type of angle pair
_Same-Side Exterior

These angles are
_Supplementary__

so….x=_103°___

6)

106°

x°

Type of angle pair
_Alternate Interior

These angles are
_Congruent____

so….x=_106°___

7)

74°

x°

Type of angle pair
_Same-Side Interior

These angles are
_Supplementary__

so….x=_106°___

8)

142°

x°
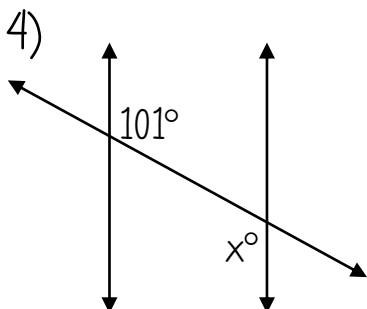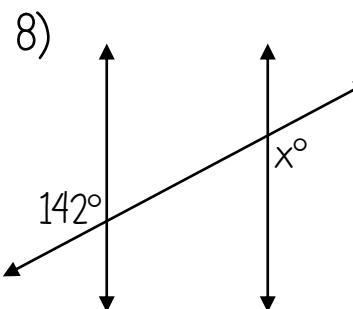
Type of angle pair
_Alternate Exterior

These angles are
_Congruent____

so….x=_142°___

Angle Pairs Created by Parallel Lines Cut by a Transversal

For each set of angles name the angle pair, write the equation, solve the equation for x, and plug in x to find the missing angle measurements
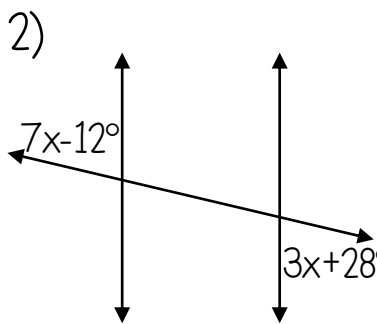
1)

$3x°$

$6x°$
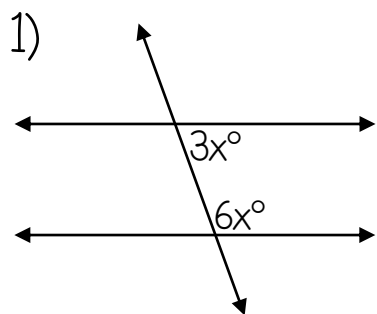
Type of angle pair _Same-Side Interior_

These angles are _Supplementary_

Equation __$3x+6x=180$__

x=_20___

Angle Measurements= __60° & 120°__

Show your work

2)

$7x-12°$

$3x+28°$

Type of angle pair _Alternate Exterior_

These angles are _Congruent____

Equation __$7x-12=3x+28$____

x=_10_____

Angle Measurements= __58° & 58°__
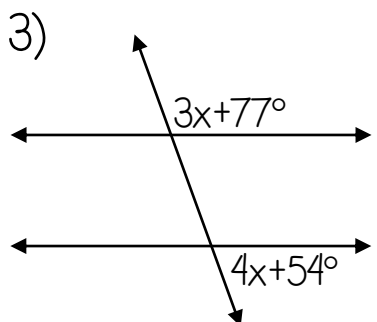
Show your work

3)

$3x+77°$

$4x+54°$

Type of angle pair _Same-Side Exterior_

These angles are _Supplementary__

Equation __$3x+77+4x+54=180$__

x=_7____

Angle Measurements= __98° & 82°__

Show your work

4)

$9x+8°$
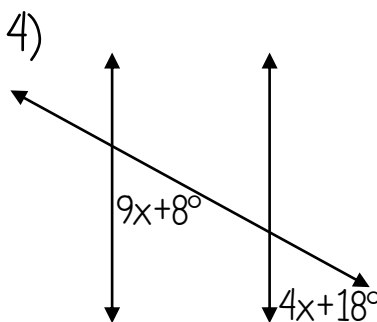
$4x+18°$

Type of angle pair _Corresponding_

These angles are _Congruent____

Equation $9x+8=4x+18$___

x=_2____

Angle Measurements= __26° & 26°__

Show your work

If your students need more practice to strengthen their skills in parallel lines cut by a transversal I hope you will explore some of my other resources as well.

Images are hyperlinked for easy access to the product

Parallel Lines Cut By a Transversal Maze — Solving Equations

Parallel Lines Cut By a Transversal Maze — Identifying Angle Pairs

Parallel Lines Cut By a Transversal Task Cards — with & without QR Codes

Parallel Lines Cut By a Transversal Maze — Finding Angle Measures

Parallel Lines Cut By a Transversal Card Sort — Corresponding, Alternate Interior, Alternate Exterior, Same-Side Interior