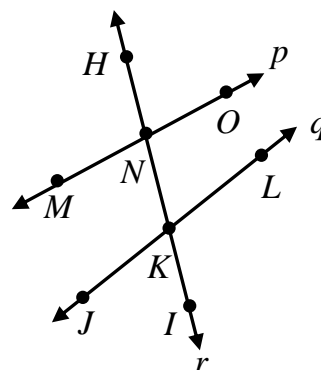


Naming points, Lines, and Planes: Practice!

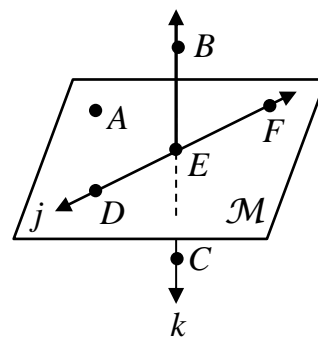
1. Use the diagram to the right to name the following.

- Four collinear points. _____
- A line that contains point M . _____
- A line that contains points H and K . _____
- Another name for line q . _____
- The intersection of lines p and r . _____



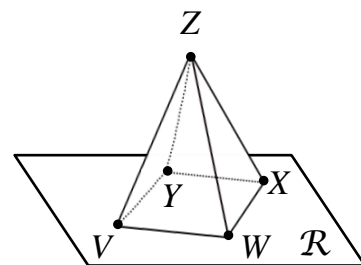
2. Use the diagram to the right to name the following.

- A line containing point F . _____
- Another name for line k . _____
- A plane containing point A . _____
- An example of three non-collinear points. _____
- The intersection of plane M and line k . _____



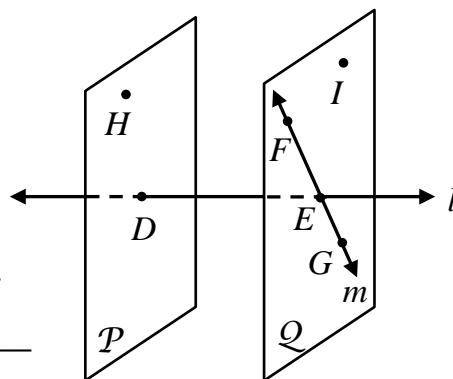
3. Use the diagram to the right to name the following.

- Three coplanar points. _____
- A plane containing point X . _____
- The intersection of plane R and plane ZVY . _____
- How many planes appear in the figure? _____
- How many planes contain point W ? _____



4. Use the diagram to the right to name the following.

- The intersection of lines l and m . _____
- Another name for plane Q . _____
- Are points D and E collinear or coplanar? _____
- How many times do planes P and Q intersect? _____





Name: _____

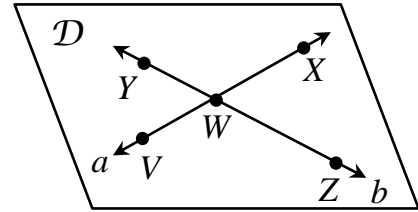
Unit 1: Geometry Basics

Date: _____ Per: _____

Homework 1: Points, Lines, and Planes

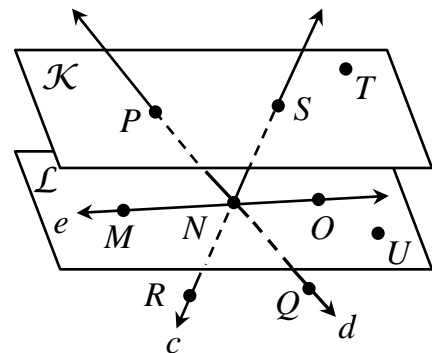
1. Use the diagram to answer the following questions.

- a) How many points appear in the figure? _____
- b) How many lines appear in the figure? _____
- c) How many planes appear in the figure? _____
- d) Name a line containing point V . _____
- e) Name the intersection of lines a and b . _____
- f) Give another name for line b . _____
- g) Name three non-collinear points. _____
- h) Give another name for plane \mathcal{D} . _____



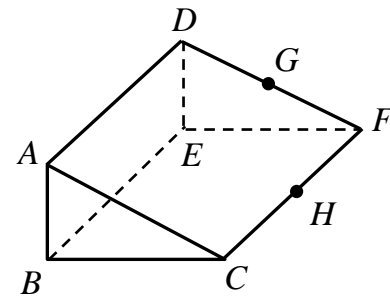
2. Use the diagram to answer the following questions.

- a) How many points appear in the figure? _____
- b) How many lines appear in the figure? _____
- c) How many planes appear in the figure? _____
- d) Name three collinear points. _____
- e) Name four non-coplanar points. _____
- f) Give another name for line e . _____
- g) Name the intersection of \overleftrightarrow{PQ} and \overleftrightarrow{MO} . _____
- h) Name the intersection of plane \mathcal{K} and line c . _____
- i) Give another name for plane \mathcal{L} . _____
- j) Give another name for \overleftrightarrow{PQ} . _____

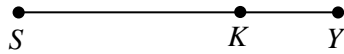


3. Use the diagram to answer the following questions.

- a) How many points appear in the figure? _____
- b) How many lines appear in the figure? _____
- c) How many planes appear in the figure? _____
- d) Name three collinear points. _____
- e) Name four coplanar points. _____
- f) Name the intersection of planes ABC and ABE . _____
- g) Name the intersection of planes BCH and DEF . _____
- h) Name the intersection of \overline{AD} and \overline{DF} . _____

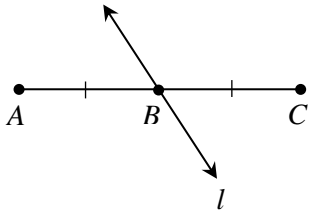


7. If $SK = 13x - 5$, $KY = 2x + 9$, and $SY = 36 - x$, find each value.



$x =$ _____
 $SK =$ _____
 $KY =$ _____
 $SY =$ _____

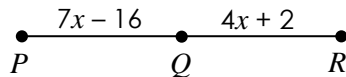
MIDPOINT of a Segment



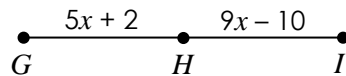
- The _____ of a segment is a point that divides the segment into _____.
- A line, ray, or segment that intersects a segment at its midpoint is said to _____ the segment and is called the _____.
- In the diagram to the left, _____ is the midpoint of _____ and line _____ is a _____ of _____.

Examples

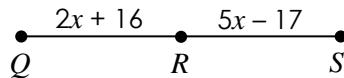
8. If Q is the midpoint of \overline{PR} , find the value of x .



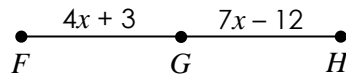
9. If H is the midpoint of \overline{GI} , find GH .



10. If R is the midpoint of \overline{QS} , find QS .



11. If G is the midpoint of \overline{FH} and $FH = 6y - 2$, find y .



Name: _____

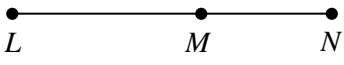
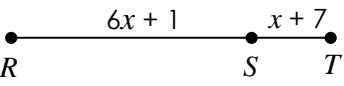
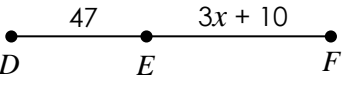
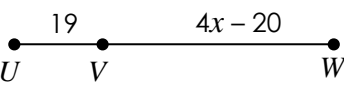
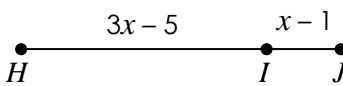
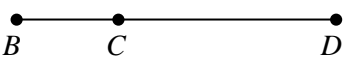
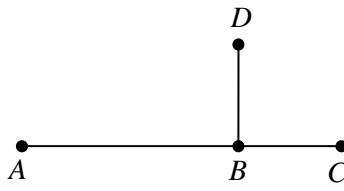
Unit 1: Geometry Basics



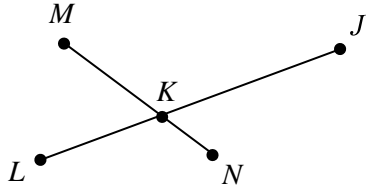
Date: _____ Per: _____

Homework 2: Segment Addition Postulate

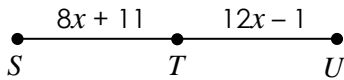
**** This is a 2-page document! ****

<p>Use the diagram below to answer questions 1 and 2.</p> 	<p>1. If $LM = 22$ and $MN = 15$, find LN.</p>
<p>3. If $RT = 36$, find the value of x.</p> 	<p>2. If $LN = 54$ and $LM = 31$, find MN.</p> <p>4. If $DF = 9x - 39$, find EF.</p> 
<p>5. If $UW = 6x - 35$, find UW.</p> 	<p>6. If $HJ = 7x - 27$, find the value of x.</p> 
<p>7. If $BD = 7x - 10$, $BC = 4x - 29$, and $CD = 5x - 9$, find each value.</p>  <p style="text-align: right;">$x =$ _____ $BC =$ _____ $CD =$ _____ $BD =$ _____</p>	
<p>8. If $\overline{BD} \cong \overline{BC}$, $BD = 5x - 26$, $BC = 2x + 1$, and $AC = 43$, find AB.</p> 	

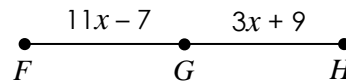
9. If $\overline{LK} \cong \overline{MK}$, $LK = 7x - 10$, $KN = x + 3$, $MN = 9x - 11$, and $KJ = 28$, find LJ .



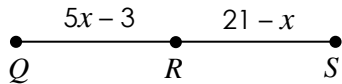
10. If T is the midpoint of \overline{SU} , find x .



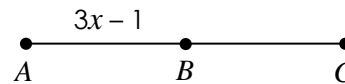
11. If G is the midpoint of \overline{FH} , find FG .



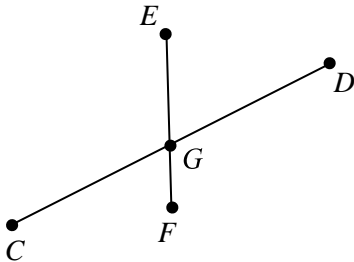
12. If R is the midpoint of \overline{QS} , find QS .



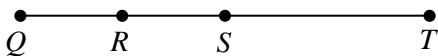
13. If B is the midpoint of \overline{AC} , and $AC = 8x - 20$, find BC .



14. If \overline{EF} bisects \overline{CD} , $CG = 5x - 1$, $GD = 7x - 13$, $EF = 6x - 4$, and $GF = 13$, find EG .

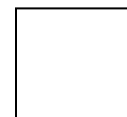


15. If R is the midpoint of \overline{QS} , $RS = 2x - 4$, $ST = 4x - 1$, and $RT = 8x - 43$, find QS .



Name: _____

Unit 1: Geometry Basics



Date: _____ Per: _____

Homework 3: Distance & Midpoint Formulas

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Directions: Find the distance between each pair of points.

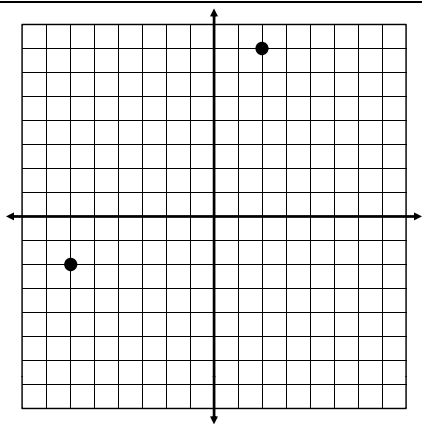
1. $(-4, 6)$ and $(3, -7)$

2. $(-6, -5)$ and $(2, 0)$

3. $(-1, 4)$ and $(1, -1)$

4. $(0, -8)$ and $(3, 2)$

5.



Directions: Find the coordinates of the midpoint of the segment given its endpoints.

6. $A(5, 8)$ and $B(-1, -4)$

7. $M(-5, 9)$ and $N(-2, 7)$

8. $P(-3, -7)$ and $Q(3, -5)$

9. $F(2, -6)$ and $G(-8, 5)$

Directions: Find the missing endpoint if S is the midpoint \overline{RT} .

10. $R(-9, 4)$ and $S(2, -1)$; Find T .

11. $S(-4, -6)$ and $T(-7, -3)$; Find R .

12. B is the midpoint of \overline{AC} and E is the midpoint of \overline{BD} . If $A(-9, -4)$, $C(-1, 6)$, and $E(-4, -3)$, find the coordinates of D .

Directions: Suppose Q is the midpoint of \overline{PR} . Use the information to find the missing value.

13. $PQ = 3x + 14$ and $QR = 7x - 10$; Find x .

14. $PQ = 2x + 1$ and $QR = 5x - 44$; Find PQ .

15. $PQ = 6x + 25$ and $QR = 16 - 3x$; Find PR .

16. $PR = 9x - 31$ and $QR = 43$; Find x .

Name: _____

Unit 1: Geometry Basics

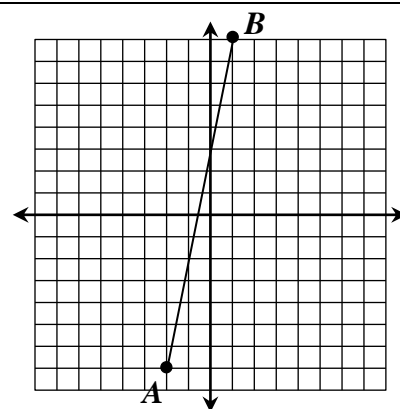
Date: _____ Per: _____

Homework 4: Partitioning a Segment

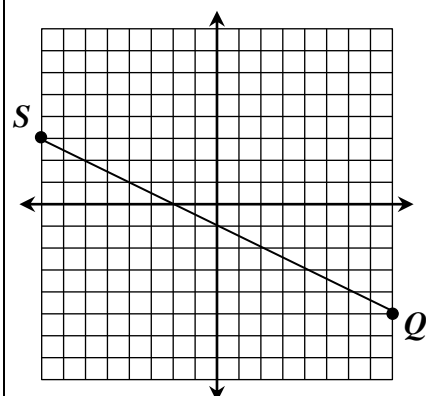


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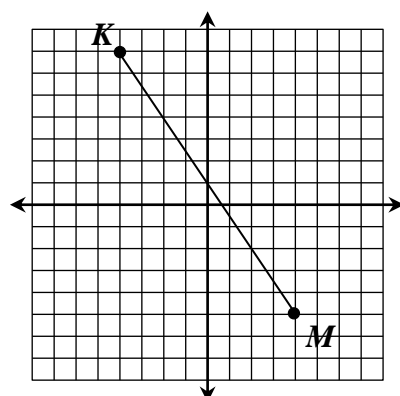
1. Given directed line segment \overline{AB} , find the coordinates of P such that the ratio of AP to PB is 2:1. Plot point P .



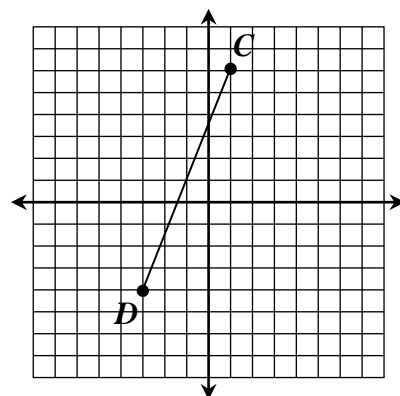
2. Given directed line segment \overline{QS} , find the coordinates of R such that the ratio of QR to RS is 3:5. Plot point R .



3. Given directed line segment \overline{KM} , find the coordinates of L such that the ratio of KL to LM is 1:3. Plot point L .



4. Given directed line segment \overline{CD} , if point E divides CD three-fourths of the way from C to D , find the coordinates of E , then plot E .



Name: _____

Unit 1: Geometry Basics

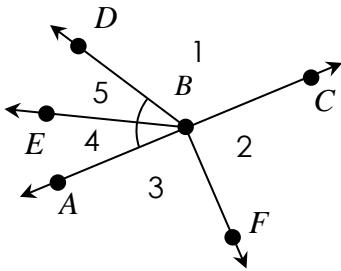


Date: _____ Per: _____

Homework 5: Angle Addition Postulate

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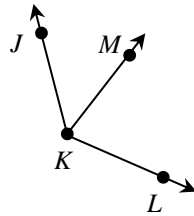
1. Use the diagram below to complete each part.



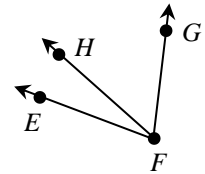
* $\overrightarrow{BF} \perp \overrightarrow{AC}$

- a) Name the vertex of $\angle 4$. _____
- b) Name the sides of $\angle 1$. _____
- c) Write another name for $\angle 5$. _____
- d) Classify each angle:
 $\angle FBC$: _____ $\angle EBF$: _____ $\angle ABC$: _____
- e) Name an angle bisector. _____
- f) If $m\angle EBD = 36^\circ$ and $m\angle DBC = 108^\circ$, find $m\angle EBC$. _____
- g) If $m\angle EBF = 117^\circ$, find $m\angle ABE$. _____

2. If $m\angle MKL = 83^\circ$, $m\angle JKL = 127^\circ$, and $m\angle JKM = (9x - 10)^\circ$, find the value of x .

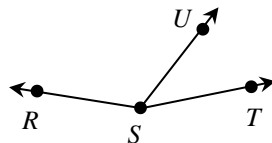


3. If $m\angle EFH = (5x + 1)^\circ$, $m\angle HFG = 62^\circ$, and $m\angle EFG = (18x + 11)^\circ$, find each measure.



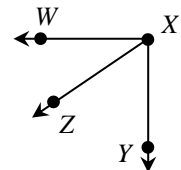
$x =$ _____
 $m\angle EFH =$ _____
 $m\angle EFG =$ _____

4. If $m\angle RST = (12x - 1)^\circ$, $m\angle RSU = (9x - 15)^\circ$, and $m\angle UST = 53^\circ$, find each measure.



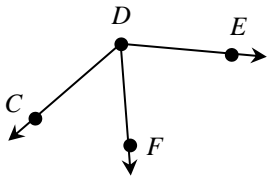
$x =$ _____
 $m\angle RST =$ _____
 $m\angle RSU =$ _____

5. If $m\angle WXZ = (5x + 3)^\circ$, $m\angle ZXY = (8x - 4)^\circ$, and $\angle WXY$ is a right angle, find each measure.



$x =$ _____
 $m\angle WXZ =$ _____
 $m\angle ZXY =$ _____

6. If $m\angle CDF = (3x + 14)^\circ$, $m\angle FDE = (5x - 2)^\circ$, and $m\angle CDE = (10x - 18)^\circ$, find each measure.



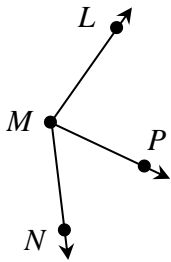
$$x = \underline{\hspace{2cm}}$$

$$m\angle CDF = \underline{\hspace{2cm}}$$

$$m\angle FDE = \underline{\hspace{2cm}}$$

$$m\angle CDE = \underline{\hspace{2cm}}$$

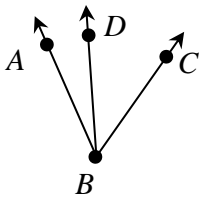
7. If $m\angle LMP$ is 11 degrees more than $m\angle NMP$ and $m\angle NML = 137^\circ$, find each measure.



$$m\angle LMP = \underline{\hspace{2cm}}$$

$$m\angle NMP = \underline{\hspace{2cm}}$$

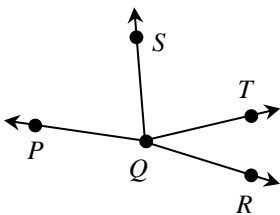
8. If $m\angle ABC$ is one degree less than three times $m\angle ABD$ and $m\angle DBC = 47^\circ$, find each measure.



$$m\angle ABD = \underline{\hspace{2cm}}$$

$$m\angle ABC = \underline{\hspace{2cm}}$$

9. If \overline{QS} bisects $\angle PQT$, $m\angle SQT = (8x - 25)^\circ$, $m\angle PQT = (9x + 34)^\circ$, and $m\angle SQR = 112^\circ$, find each measure.



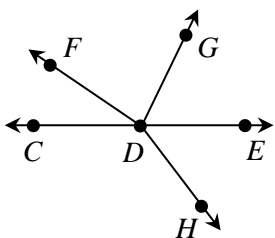
$$x = \underline{\hspace{2cm}}$$

$$m\angle PQS = \underline{\hspace{2cm}}$$

$$m\angle PQT = \underline{\hspace{2cm}}$$

$$m\angle TQR = \underline{\hspace{2cm}}$$

10. If $\angle CDE$ is a straight angle, \overline{DE} bisects $\angle GDH$, $m\angle GDE = (8x - 1)^\circ$, $m\angle EDH = (6x + 15)^\circ$, and $m\angle CDF = 43^\circ$, find each measure.



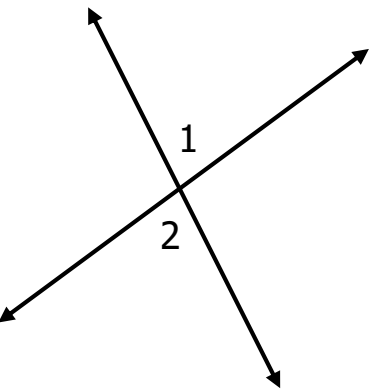
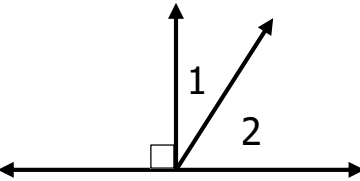
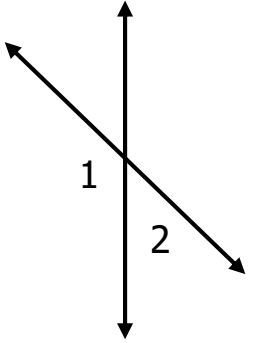
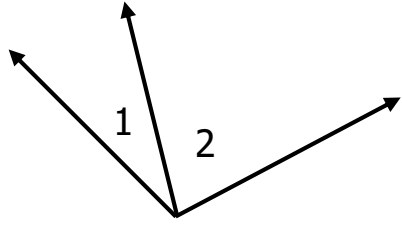
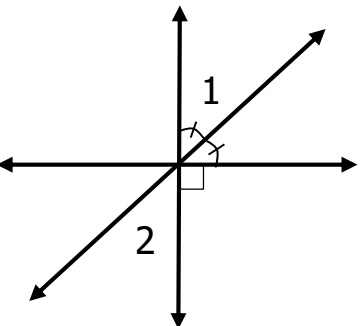
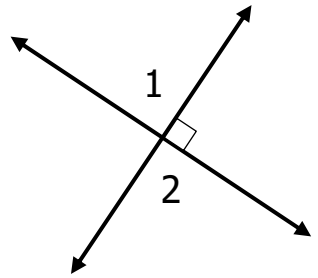
$$x = \underline{\hspace{2cm}}$$

$$m\angle GDH = \underline{\hspace{2cm}}$$

$$m\angle FDH = \underline{\hspace{2cm}}$$

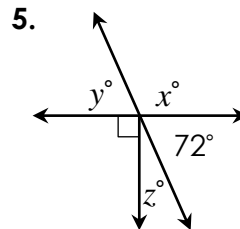
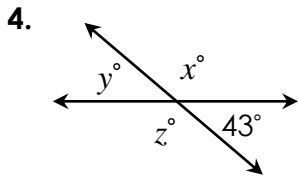
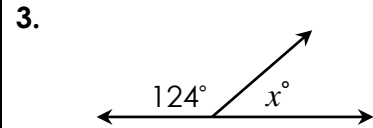
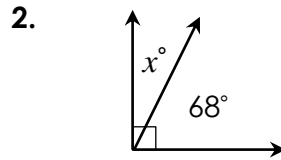
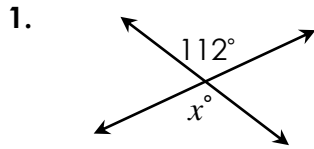
$$m\angle FDE = \underline{\hspace{2cm}}$$

Identifying Types of Angles: Check all relationships between $\angle 1$ and $\angle 2$.

<p>1</p>  <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent <input type="checkbox"/> Vertical <input type="checkbox"/> Complementary <input type="checkbox"/> Supplementary <input type="checkbox"/> Linear Pair 	<p>2</p>  <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent <input type="checkbox"/> Vertical <input type="checkbox"/> Complementary <input type="checkbox"/> Supplementary <input type="checkbox"/> Linear Pair
<p>3</p>  <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent <input type="checkbox"/> Vertical <input type="checkbox"/> Complementary <input type="checkbox"/> Supplementary <input type="checkbox"/> Linear Pair 	<p>4</p>  <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent <input type="checkbox"/> Vertical <input type="checkbox"/> Complementary <input type="checkbox"/> Supplementary <input type="checkbox"/> Linear Pair
<p>5</p>  <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent <input type="checkbox"/> Vertical <input type="checkbox"/> Complementary <input type="checkbox"/> Supplementary <input type="checkbox"/> Linear Pair 	<p>6</p>  <ul style="list-style-type: none"> <input type="checkbox"/> Adjacent <input type="checkbox"/> Vertical <input type="checkbox"/> Complementary <input type="checkbox"/> Supplementary <input type="checkbox"/> Linear Pair

Using ANGLE RELATIONSHIPS to find ANGLE MEASURES

Directions: Find the missing measures in each figure. Keep the angle relationships in mind.



6. $\angle 1$ and $\angle 2$ are vertical angles. If the measure of $\angle 2$ is 105° , find the measure of $\angle 1$.

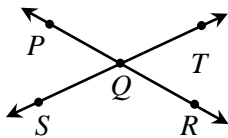
7. $\angle A$ and $\angle B$ are complementary angles. If the measure of $\angle A$ is 42° , find the measure of $\angle B$.

8. $\angle P$ and $\angle Q$ are supplementary angles. If the measure of $\angle Q$ is 64° , find the measure of $\angle P$.

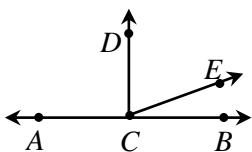
9. $\angle 1$ and $\angle 2$ form a linear pair. If the measure of $\angle 1$ is 113° , find the measure of $\angle 2$.

USING ALGEBRA

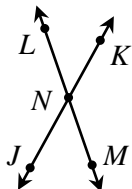
10. If $m\angle PQT = (3x + 47)^\circ$ and $m\angle SQR = (6x - 25)^\circ$, find the measure of $\angle SQR$.



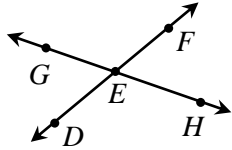
11. If $\overline{AB} \perp \overline{CD}$, $m\angle DCE = (7x + 2)^\circ$ and $m\angle ECB = (x + 8)^\circ$, find the measure of $\angle DCE$.



12. If $m\angle KNM = (8x - 5)^\circ$ and $m\angle MNJ = (4x - 19)^\circ$, find the measure of $\angle KNM$.



13. If $m\angle DEG = (5x - 4)^\circ$, $m\angle GEF = (7x - 8)^\circ$, $m\angle DEH = (9y + 5)^\circ$, find the values of x and y .



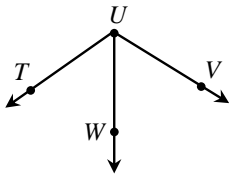
14. $\angle R$ and $\angle S$ are complementary angles. If $m\angle R = (12x - 3)^\circ$ and $m\angle S = (7x - 2)^\circ$, find $m\angle R$.

15. $\angle P$ and $\angle Q$ are supplementary angles. If $m\angle P = (4x + 1)^\circ$ and $m\angle Q = (9x - 3)^\circ$, find $m\angle Q$.

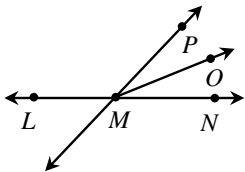
16. $\angle 1$ and $\angle 2$ form a linear pair. The measure of $\angle 2$ is six more than twice the measure of $\angle 1$. Find $m\angle 2$.

17. $\angle J$ and $\angle K$ are complementary angles. The measure of $\angle J$ is 18 less than the measure of $\angle K$. Find the measure of each angle.

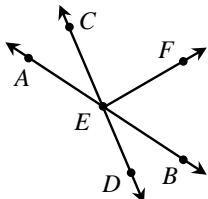
18. If \overline{UW} bisects $\angle TUV$, $m\angle TUW = (13x - 5)^\circ$ and $m\angle WUV = (7x + 31)^\circ$, find the value of x .



19. If \overline{MO} bisects $\angle PMN$, $m\angle PMN = 74^\circ$ and $m\angle OMN = (2x + 7)^\circ$, find the value of x .



20. If \overline{EF} bisects $\angle CEB$, $m\angle CEF = (7x + 21)^\circ$ and $m\angle FEB = (10x - 3)^\circ$, find the measure of $\angle DEB$.



Name: _____

Unit 1: Geometry Basics

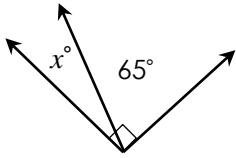


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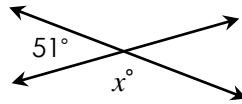
Homework 6: Angle Relationships

**** This is a 2-page document! ****

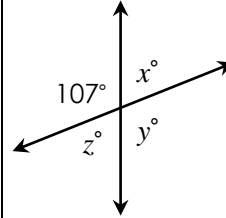
1. Find the missing measure.



2. Find the missing measure.



3. Find the missing measures.



4. If the measure of an angle is 13° , find the measure of its supplement.

5. If the measure of an angle is 38° , find the measure of its complement.

6. $\angle 1$ and $\angle 2$ form a linear pair. If $m\angle 1 = (5x + 9)^\circ$ and $m\angle 2 = (3x + 11)^\circ$, find the measure of each angle.

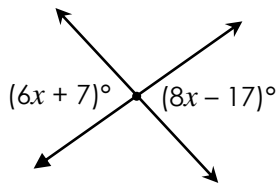
7. $\angle 1$ and $\angle 2$ are vertical angles. If $m\angle 1 = (17x + 1)^\circ$ and $m\angle 2 = (20x - 14)^\circ$, find $m\angle 2$.

8. $\angle K$ and $\angle L$ are complementary angles. If $m\angle K = (3x + 3)^\circ$ and $m\angle L = (10x - 4)^\circ$, find the measure of each angle.

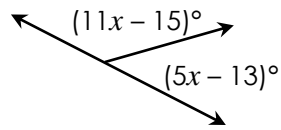
9. If $m\angle P$ is three less than twice the measure of $\angle Q$, and $\angle P$ and $\angle Q$ are supplementary angles, find each angle measure.

10. If $m\angle B$ is two more than three times the measure of $\angle C$, and $\angle B$ and $\angle C$ are complementary angles, find each angle measure.

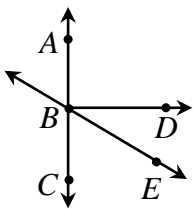
11. Find the value of x .



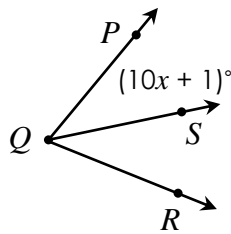
12. Find the value of x .



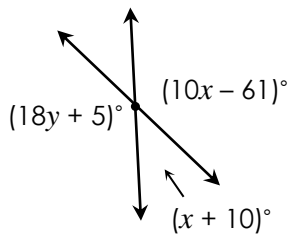
13. If $\overline{BD} \perp \overline{AC}$, $m\angle DBE = (2x - 1)^\circ$, and $m\angle CBE = (5x - 42)^\circ$, find the value of x .



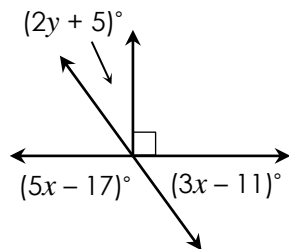
14. Find the value of x if \overline{QS} bisects $\angle PQR$ and $m\angle PQR = 82^\circ$.



15. Find the values of x and y .



16. Find the values of x and y .



17. If \overline{NP} bisects $\angle MNQ$, $m\angle MNQ = (8x + 12)^\circ$, $m\angle PNQ = 78^\circ$, and $m\angle RNM = (3y - 9)^\circ$, find the values of x and y .

