



Name: _____

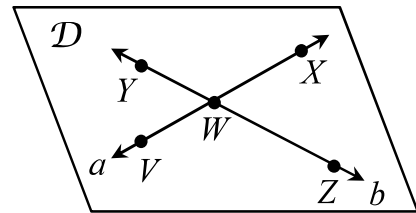
Unit 1: Geometry Basics

Date: _____ Bell: _____

Homework 1: Points, Lines, and Planes

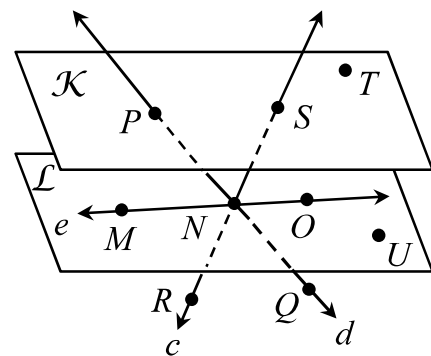
1. Use the diagram to answer the following questions.

- 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} . _____



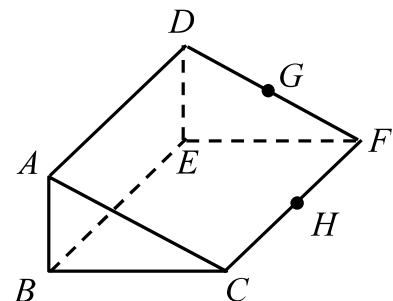
2. Use the diagram to answer the following questions.

- 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} . _____



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Homework 2: Distance & Midpoint Formulas

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Directions: Find the distance between each pair of points.

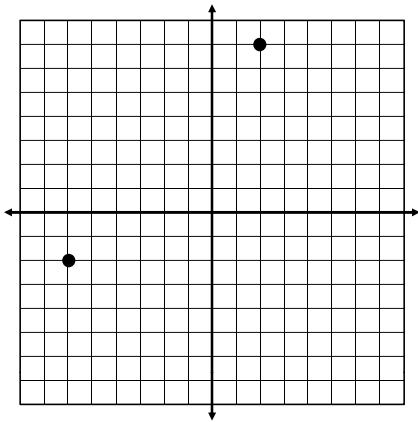
1. $(-4, 6)$ and $(3, -7)$

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 K is the midpoint \overline{LM} .

10. $L(-9, 4)$ and $K(2, -1)$; Find M .

11. $K(-4, -6)$ and $M(-7, -3)$; Find L .

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

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

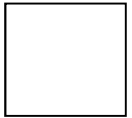
13. $PQ = 2x + 1$ and $QR = 5x - 44$; Find PQ .

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

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

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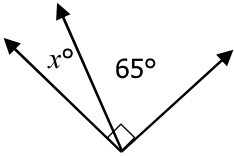
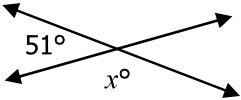
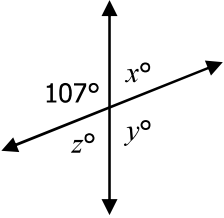
Unit 1: Geometry Basics



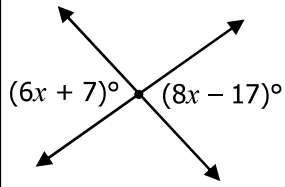
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Homework 3: Angle Relationships

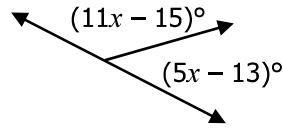
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| | | |
|--|--|---|
| <p>1. Find the missing angle.</p>  | <p>2. Find the missing angle.</p>  | <p>3. Find the missing angles.</p>  |
| <p>4. If the measure of an angle is 13°, find the measure of its supplement.</p> | <p>5. If the measure of an angle is 38°, find the measure of its complement.</p> | |
| <p>6. $\angle 1$ and $\angle 2$ form a linear pair. If $m\angle 1 = 5x + 9$ and $m\angle 2 = 3x + 11$, find the measures of both angles.</p> | | |
| <p>7. $\angle 1$ and $\angle 2$ are vertical angles. If $m\angle 1 = 17x + 1$ and $m\angle 2 = 20x - 14$, find $m\angle 2$.</p> | | |
| <p>8. $\angle K$ and $\angle L$ are complementary angles. If $m\angle K = 3x + 3$ and $m\angle L = 10x - 4$, find the measures of both angles.</p> | | |
| <p>9. The $m\angle P$ is three less than twice the measure of $\angle Q$. If $\angle P$ and $\angle Q$ are supplementary angles, find the measures of both angles.</p> | | |
| <p>10. The $m\angle B$ is two more than three times the measure of $\angle C$. If $\angle B$ and $\angle C$ are complementary angles, find the measures of both angles.</p> | | |

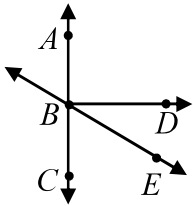
11. Find the value of x .



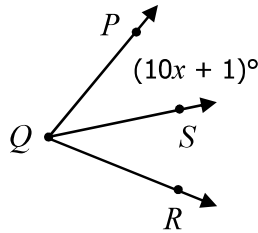
12. Find the value of x .



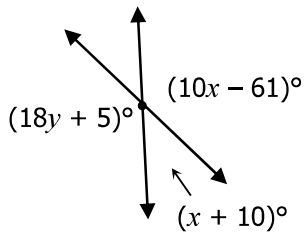
13. If $\overrightarrow{BD} \perp \overrightarrow{AC}$, $m\angle DBE = 2x - 1$ and $m\angle CBE = 5x - 42$ find the value of x .



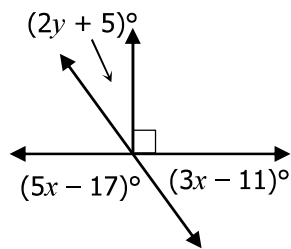
14. Find the value of x if \overrightarrow{QS} bisects $\angle PQR$ and $m\angle PQR = 82^\circ$



15. Find the values of x and y .



16. Find the values of x and y .



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

