

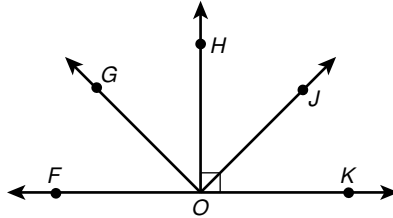
Date _____

Dear Family,

In this chapter, your child will learn basic concepts such as identifying points and planes, measuring and constructing segments and angles, and problem-solving formulas. This provides the foundation needed for further study in geometry and for careers in areas such as graphic arts and architecture.

Your child will learn about different types of angles and how to describe special pairs of angles.

Look at the figure.



1. Name an acute angle.

$\angle KOJ$

3. Name an obtuse angle.

$\angle GOK$

5. Name two adjacent angles.

$\angle HOJ$ and $\angle JOK$

7. Name two supplementary angles.

$\angle JOK$ and $\angle JOF$

2. Name a right angle.

$\angle HOK$

4. Name a straight angle.

$\angle FOK$

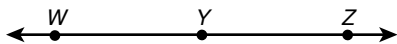
6. Name two complementary angles.

$\angle HOJ$ and $\angle JOK$

Your child will learn to identify the **midpoint** of a segment and then use the midpoint to find the length of the segment.

Y is the midpoint of segment WZ, and $WY = 7x$, and $YZ = 2x + 5$.

What is the value of x ?



Solve for x .

$$WY = YZ$$

$$7x = 2x + 5$$

$$\begin{array}{r} -2x \quad -2x \\ \hline \end{array}$$

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

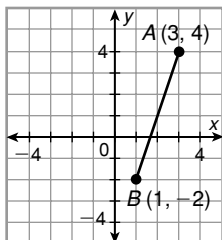
$$x = 1$$

Your child will also use the Distance Formula and the Pythagorean Theorem to find the distance between two points.

The Distance Formula is $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

The Pythagorean Theorem is $a^2 + b^2 = c^2$, where a and b are the lengths of the legs of a right triangle and c is the length of the hypotenuse.

Find the distance between points A and B in this coordinate plane using the Distance Formula and the Pythagorean Theorem.



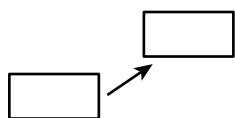
Distance Formula

$$\begin{aligned}d &= \sqrt{(3 - 1)^2 + (4 - (-2))^2} \\&= \sqrt{(2)^2 + (6)^2} \\&= \sqrt{4 + 36} \\&= \sqrt{40} \\&\approx 6.3\end{aligned}$$

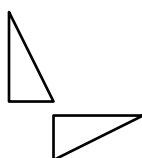
Pythagorean Theorem

$$\begin{aligned}a^2 + b^2 &= c^2 \\a = 2, b = 6 \\c^2 &= 2^2 + 6^2 \\c &= \sqrt{4 + 36} \\&= \sqrt{40} \\&\approx 6.3\end{aligned}$$

Your child will also learn about transforming plane figures using translations, rotations, and reflections. A **translation** slides a figure along a line without turning. A **rotation** turns the figure around a point, called the center of rotation. A **reflection** flips the figure across a line to create a mirror image.



translation



rotation



reflection

For additional resources, visit go.hrw.com and enter the keyword MG7 Parent.