

Dear Family,

Your child is learning how to find the area of polygons.



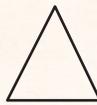
Your child is familiar with finding the area of a rectangle from work in earlier grades. A rectangle is a type of polygon. Some other kinds of polygons are triangles, parallelograms, and trapezoids.



rectangle



right triangle



triangle



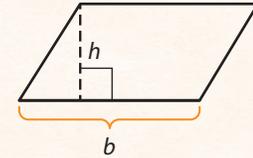
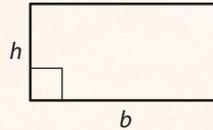
parallelogram



trapezoid

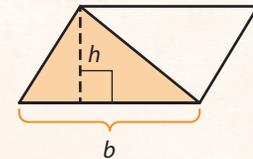
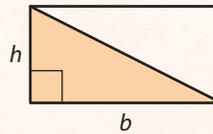
To find the area of a rectangle or a parallelogram, multiply the base b by the height h .

$$A = bh$$



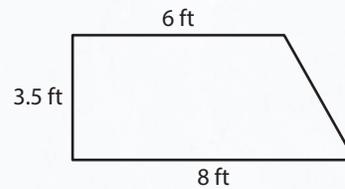
You can think of the area of a triangle as one-half of the area of a rectangle or a parallelogram. So, to find the area of a triangle, multiply the product of the base and height by $\frac{1}{2}$.

$$A = \frac{1}{2}bh$$



Consider the following example:

Ms. Herrera's flower bed has the shape of the trapezoid shown at the right. What is the area of the flower bed?



The next page shows two ways your child may find the area of the flower bed.



Area of Polygons: Sample Solution

What is the area of Ms. Herrera's flower bed?

One way:

You can think of a trapezoid as a rectangle and a triangle, so you can find its area by adding the areas of the rectangle and the triangle.



Divide the trapezoid, label the dimensions, and find each area.

$$\text{Area of the rectangle} = bh$$

$$= 6(3.5)$$

$$= 21$$

$$\text{Area of the triangle} = \frac{1}{2}bh$$

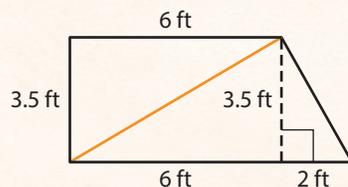
$$= \frac{1}{2}(2)(3.5)$$

$$= 3.5$$

Add the areas: 21 square feet + 3.5 square feet = 24.5 square feet.

Another way:

You can think of a trapezoid as two triangles, so you can find its area by adding the areas of the triangles.



Divide the trapezoid, label the dimensions, and find each area.

$$\text{Area of one triangle}$$

$$\frac{1}{2}bh = \frac{1}{2}(6)(3.5)$$

$$= 10.5$$

$$\text{Area of the other triangle}$$

$$\frac{1}{2}bh = \frac{1}{2}(6 + 2)(3.5)$$

$$= \frac{1}{2}(8)(3.5)$$

$$= 14$$

Add the areas: 10.5 square feet + 14 square feet = 24.5 square feet.

Answer: Both methods show that the area of the trapezoid is 24.5 square feet, which means that Ms. Herrera's flower bed has an area of 24.5 square feet.

