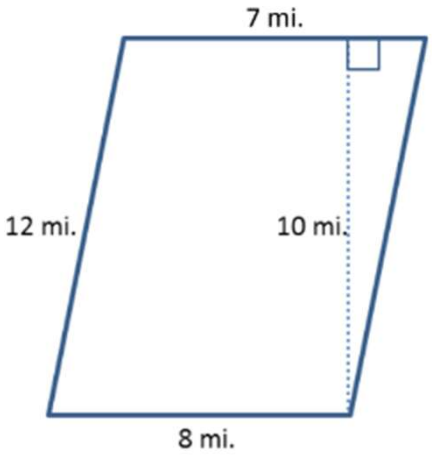
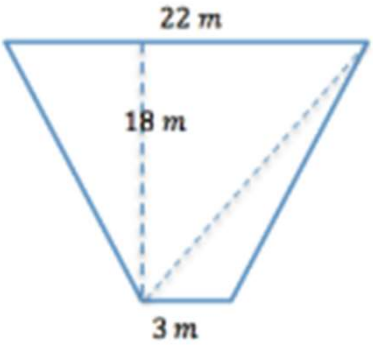
Area Worksheets (Decomposition)

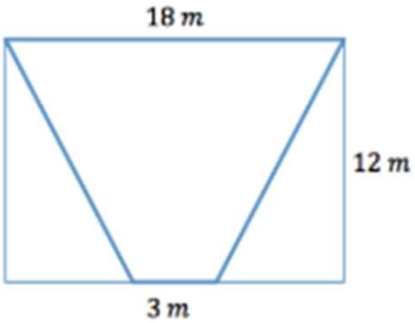
1. Find the area of the trapezoid below by decomposing into two triangles.



2. Find the area of the trapezoid below by decomposing into two triangles.



3. Find the area of the trapezoid below.



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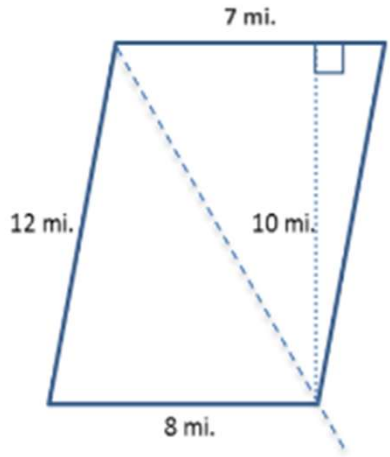


Area of Triangle 1

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

$$A = \frac{1}{2} \times 7\ mi. \times 10\ mi.$$

$$A = 35\ mi.^2$$

Area of Triangle 2

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

$$A = \frac{1}{2} \times 8\ mi. \times 10\ mi.$$

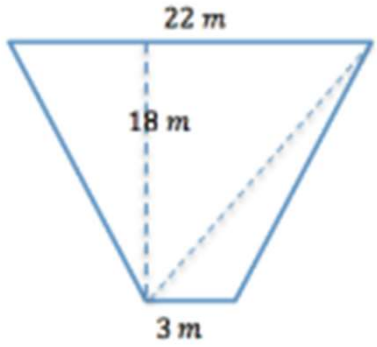
$$A = 40\ mi.^2$$

Area of Trapezoid = Area of Triangle 1 + Area of Triangle 2

$$A = 35\ mi.^2 + 40\ mi.^2 = 75\ mi.^2$$

The area of the trapezoid is 75 mi.²

2. Find the area of the trapezoid below by decomposing into two triangles.



Area of Triangle 1

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

$$A = \frac{1}{2} \times 22\ m \times 18\ m$$

$$A = 198\ m^2$$

Area of Triangle 2

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

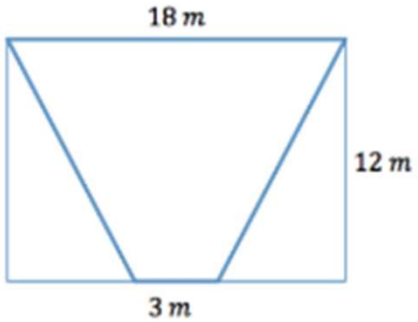
$$A = \frac{1}{2} \times 3m \times 18m$$

$$A = 27\ m^2$$

Area of Trapezoid = Area of Triangle 1 + Area of Triangle 2

$$Area = 198\ m^2 + 27\ m^2 = 225\ m^2$$

3. Find the area of the trapezoid below.



Area of Rectangle

$$A = bh$$

$$A = 18\ m \times 12\ m$$

$$A = 216\ m^2$$

Area of Triangles 1 and 2

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

$$A = \frac{1}{2} \times 7.5\ m \times 12\ m$$

$$A = 45\ m^2$$

Area of Trapezoid = Area of Rectangle − Area of Triangle 1 − Area of Triangle 2

$$A = 216\ m^2 - 45\ m^2 - 45\ m^2 = 126\ m^2$$

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