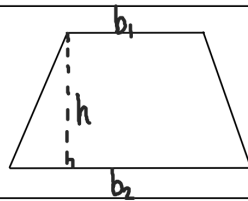


p. 789 11.2 Areas of Trapezoids, Rhombi, an

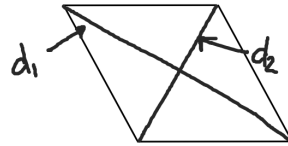
**Area of a Trapezo** is the  $\frac{1}{2}$  th product of the height and the si of its bases

$$A = \frac{1}{2}h(b_1 + b_2)$$



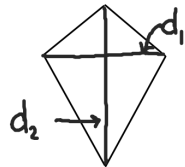
**Area of a Rhomb** is  $\frac{1}{2}$  th product of the length of diagonals

$$A = \frac{1}{2}d_1d_2$$

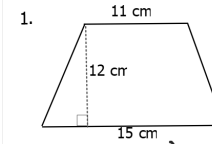


**Area of a Kil** is  $\frac{1}{2}$  the product of the length of its diagonals

$$A = \frac{1}{2}d_1d_2$$



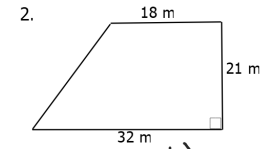
**Example 1** Find the area of each trapezoid, rhombus or k



$$A = \frac{1}{2}h(b_1 + b_2)$$

$$= \frac{1}{2}(12)(11 + 15)$$

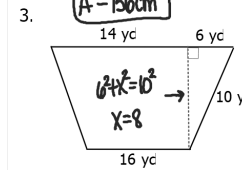
$$A = 156 \text{ cm}^2$$



$$A = \frac{1}{2}h(b_1 + b_2)$$

$$= \frac{1}{2}(21)(18 + 32)$$

$$A = 525 \text{ m}^2$$



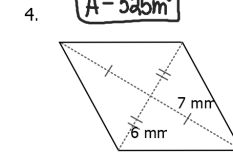
$$6^2 + x^2 = 10^2$$

$$x = 8$$

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$= \frac{1}{2}(6)(14 + 16)$$

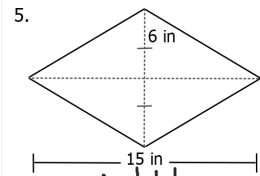
$$A = 144 \text{ yd}^2$$



$$A = \frac{1}{2}d_1d_2$$

$$= \frac{1}{2}(14)(12)$$

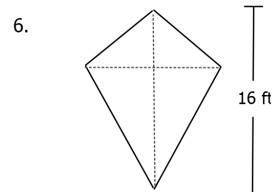
$$A = 84 \text{ mm}^2$$



$$A = \frac{1}{2}d_1d_2$$

$$= \frac{1}{2}(12)(15)$$

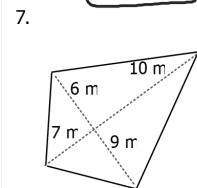
$$A = 90 \text{ in}^2$$



$$A = \frac{1}{2}d_1d_2$$

$$= \frac{1}{2}(16)(9)$$

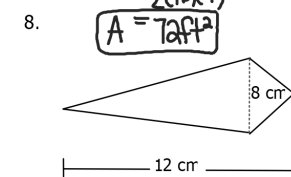
$$A = 72 \text{ ft}^2$$



$$A = \frac{1}{2}d_1d_2$$

$$= \frac{1}{2}(17)(15)$$

$$A = 127.5 \text{ m}^2$$



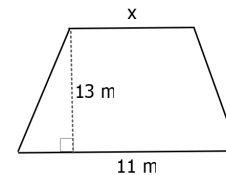
$$A = \frac{1}{2}d_1d_2$$

$$= \frac{1}{2}(12)(8)$$

$$A = 48 \text{ cm}^2$$

**Example 2** Find x.

1. Area = 177  $\text{m}^2$



$$A = \frac{1}{2}h(b_1 + b_2)$$

$$177 = \frac{1}{2}(13)(x + 11)$$

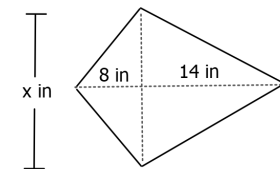
$$177 = 6.5(x + 11)$$

$$177 = 6.5x + 71.5$$

$$105.5 = 6.5x$$

$$x = 16.2$$

2. Area = 92  $\text{in}^2$



$$A = \frac{1}{2}d_1d_2$$

$$92 = \frac{1}{2}(8)(14)$$

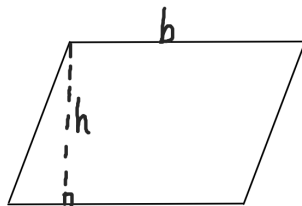
$$92 = 11x$$

$$x = 8.4$$

p. 779 11.1 Areas of Parallelograms and Tri

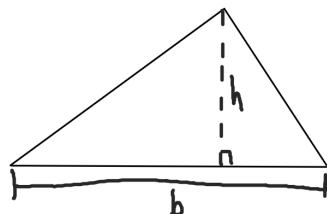
**Area of a Parallelogram** is the product of a base and its corresponding height

$$A = bh$$



**Area of a Triangle** is  $\frac{1}{2}$  the product of a base and its corresponding height

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



**Example 1** Find the perimeter and area of each parallelogram or triangle. Round to nearest tenth if necessary

1.  $A = bh = 10(5) = 50 \text{ cm}^2$

2.  $A = bh = 23(24) = 552 \text{ ft}^2$

3.  $A = bh = 17(9) = 153 \text{ yd}^2$

4.  $A = bh = 32(20.8) = 665.6 \text{ m}^2$

1.  $A = \frac{1}{2}bh = \frac{1}{2}(20)(8) = 80 \text{ in}^2$

2.  $A = \frac{1}{2}bh = \frac{1}{2}(29)(11.5) = 166.8 \text{ m}^2$

3.  $A = \frac{1}{2}bh = \frac{1}{2}(15)(8) = 20 \text{ ft}^2$

4.  $A = \frac{1}{2}bh = \frac{1}{2}(20)(10) = 100 \text{ cm}^2$

**Example 2** Find  $x$ .

1. Area =  $148 \text{ ft}^2$   
 $A = bh = 148 = 8x \Rightarrow x = 18.5 \text{ m}$

2. Area =  $357 \text{ ft}^2$   
 $A = \frac{1}{2}bh = 357 = \frac{1}{2}(34)(x) \Rightarrow x = 21 \text{ in}$

3. The base of a parallelogram is twice its height. If the area of the parallelogram is  $72 \text{ ft}^2$ , find its base and height.  
 base =  $2x$ , height =  $x$   
 $A = bh = 72 = ax(x) = \frac{ax^2}{a} \Rightarrow 72 = x^2 \Rightarrow x = 6$   
 base = 12, height = 6

Turn-in:  
p.783 (1-4)

HW: Wbk p. 139 1-10 all