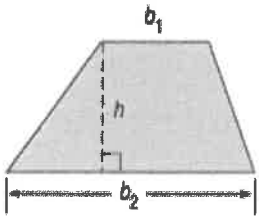
Area of a Trapezoid

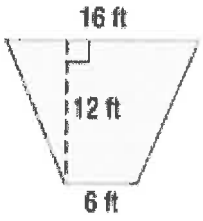
$$A = \frac{1}{2}h(b_1 + b_2)$$



height: perpendicular distance between its bases

1. Find the exact area of each trapezoid:

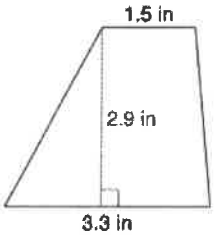
a.



$A = \frac{1}{2}(12)(16+6)$

$A = 132\ ft^2$

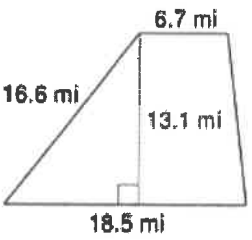
b.



$A = \frac{1}{2}(2.9)(1.5+3.3)$

$A = 6.96\ in^2$

c.

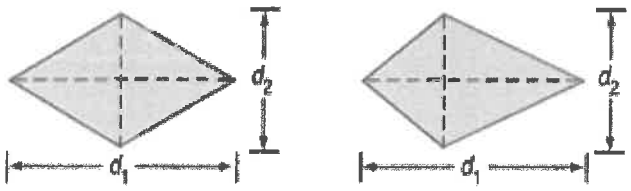


$A = \frac{1}{2}(13.1)(6.7+18.5)$

$A = 165.06\ mi^2$

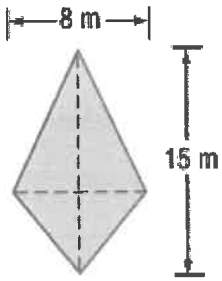
Area of a Rhombus or Kite

$$A = (d_1 * d_2)\ \frac{1}{2}$$



2. Find the exact area of the figures below:

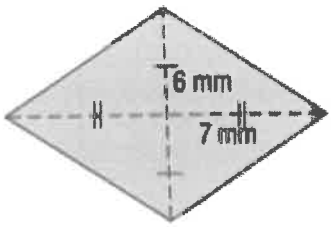
a.



$A = \frac{1}{2}(8)(15)$

$A = 60 m^2$

c.



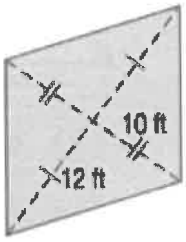
$d_1 = 12$

$d_2 = 14$

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

$= 84 \ mm^2$

b.



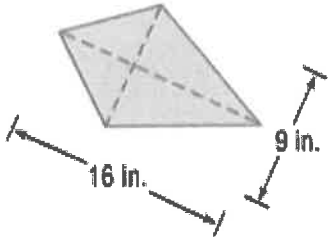
$d_1 = 20$

$d_2 = 24$

$A = \frac{1}{2}(20)(24)$

$= 240 \ ft^2$

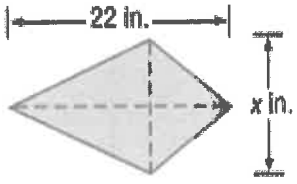
d.



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

$= 72 \ in^2$

3. Given that the area of the figure below is 92 in^2, find the value of x.

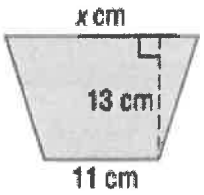


$92 = \frac{1}{2}(22)x$

$92 = 11x$

$8.4 = x$

4. Given that the area of the figure below is 177 cm^2, find the value of x.



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

$354 = 13(x+11)$

$354 = 13x + 143$

$211 = 13x$

$16.2 \text{ cm} = x$