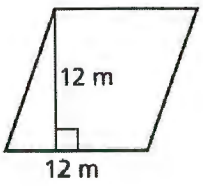
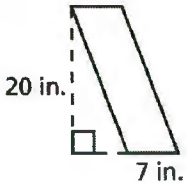
Name Answers Date

Geometry – Area of Polygons

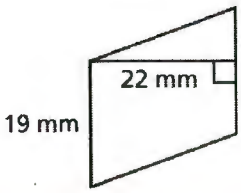
Find the area of each polygon. Show all necessary work.

1) 

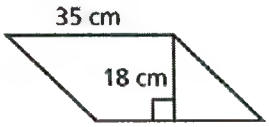
$A = bh$
$= 12 \times 12$
$= 144\ m^2$

2) 

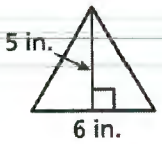
$A = bh$
$= 7 \times 20$
$= 140\ in^2$

3) 

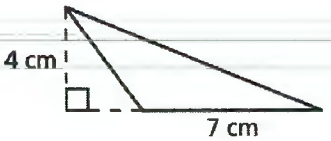
$A = bh$
$= 19 \times 22$
$= 418\ mm^2$

4) 

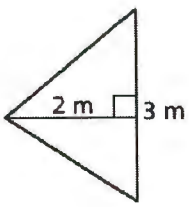
$A = bh$
$= 35 \times 18$
$= 630\ cm^2$

5) 

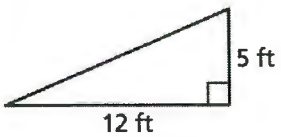
$A = \frac{1}{2}bh$
$= \frac{1}{2} \cdot 6 \cdot 5$
$= \frac{1}{2} \cdot 30$
$= 15\ in^2$

6) 

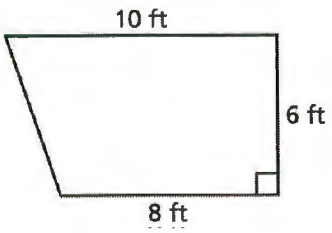
$A = \frac{1}{2}bh$
$= \frac{1}{2} \cdot 7 \cdot 4$
$= \frac{1}{2} \cdot 28$
$= 14\ cm^2$

7) 

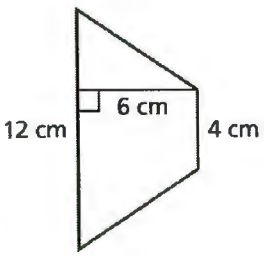
$A = \frac{1}{2}bh$
$= \frac{1}{2} \cdot 3 \cdot 2$
$= \frac{1}{2} \cdot 6$
$= 3\ m^2$

8) 

$A = \frac{1}{2}bh$
$= \frac{1}{2} \cdot 12 \cdot 5$
$= \frac{1}{2} \cdot 60$
$= 30\ ft^2$

9) 

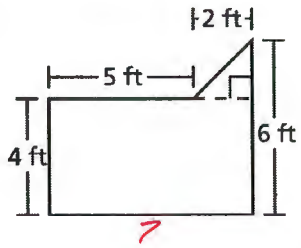
$A = \frac{1}{2}(b_1 + b_2)h$
$= \frac{1}{2}(10 + 8)6$
$= \frac{1}{2}(18)6$
$= \frac{1}{2} \cdot 108$
$= 54\ ft^2$

10) 

$A = \frac{1}{2}(b_1 + b_2)h$
$= \frac{1}{2}(4 + 12)6$
$= \frac{1}{2}(16)6$
$= \frac{1}{2} \cdot 96$
$= 48\ cm^2$

Find the area of the figure. Show all work.

11)



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

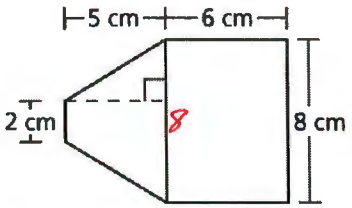
$= 7 \times 4$ $\quad = \frac{1}{2} \cdot 2 \cdot 2$

$= 28$ $\quad = 2$

Total Area $= 28 + 2$

$= 30 ft^2$

12)



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

$= \frac{1}{2}(2+8)5$ $\quad = 8 \times 6$

$= \frac{1}{2}(10)5$ $\quad = 48$

$= \frac{1}{2} \cdot 50$

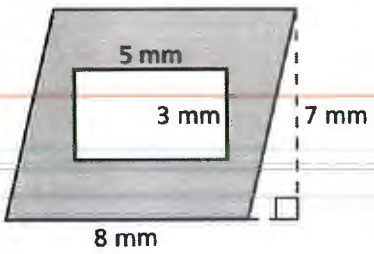
$= 25$

Total Area $= 25 + 48$

$= 73 cm^2$

Find the area of the shaded region.

13)



$A = bh$ $\quad A = bh$

$= 8 \times 7$ $\quad = 5 \times 3$

$= 56$ $\quad = 15$

shaded region $= 56 - 15$

$= 41 mm^2$

Complete the following.

14) The area of a parallelogram is 54 m^2. What is the measure of its base if the height of it is 6 m.

$A = bh$

$\frac{54}{6} = \frac{b \cdot 6}{6}$

$9 m = b$

15) The area of a triangle is 54 m^2. What is the measure of its base if the height of it is 6 m.

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

$54 = \frac{1}{2} \cdot b \cdot 6$

$\frac{54}{3} = \frac{3b}{3}$

$18 m^2 = b$

16) The area of a trapezoid is is 126 m^2. What is the measure of its height if the measures of its bases are 6m and 12 m.

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

$126 = \frac{1}{2}(6+12)h$

$126 = \frac{1}{2}(18)h$

$\frac{126}{9} = \frac{9h}{9}$

$14\,m = h$

17) The area of a trapezoid is is 9 m^2 and its height is 3 m. If one of the bases has a measure of 2 m, what is the measure of the other base?

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

~~$9 = \frac{1}{2}(2 + b_2)3$~~

$2 \cdot 9 = \frac{1}{2}(2+b_2)3 \cdot 2$

$\frac{18}{3} = \frac{(2+b_2)3}{3}$

$6 = 2 + b_2$

$-2 \quad -2$

$4 = b_2$ 4m