

Area 3.1
Geometry

Find the missing measures in the shapes below to the nearest tenth.

1) Triangle
base = 25 m
height = 49 m
Area =
 $A = (b \times h)/2$
 $A = (25m \times 49m)/2$
 $A = (1225m^2)/2$
 $A = 612.5m^2$

2) Rectangle
base = 54 in
height = 56 in
Area =
 $A = b \times h$
 $A = 54in \times 56in$
 $A = 3,024 in^2$

3) Parallelogram
base = 38 cm
height =
Area = 2736 cm²
 $A = b \times h$
 $2736 cm^2 = 38 cm \times h$
 $/38 cm \quad /38 cm$
 $h = 72 cm$

4) Triangle
base =
height = 17 mi
Area = 374 mi²
 $A = (b \times h)/2$
 $374mi^2 = (b \times 17mi)/2$
 $\times 2 \quad \times 2$
 $748 mi^2 = b \times 17 mi$
 $17 mi \quad 17 mi$
 $b = 44 mi$

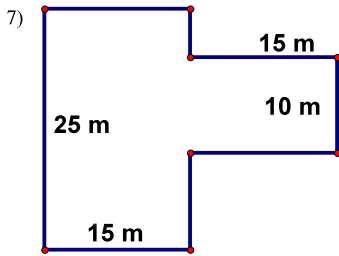
5) If a rectangle has $A = 12 yd^2$, name two possibilities for its dimensions.

Base: 4 yd	Base: 2 yd	Base: 1 yd
Height: 3 yd	Height: 6 yd	Height: 12 yd

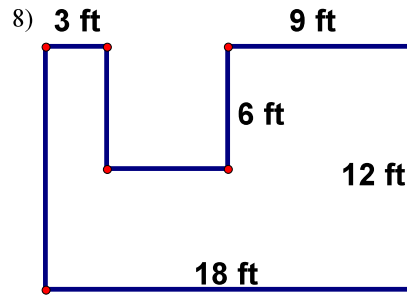
6) Name the dimensions of the square or rectangle with $A = 16 m^2$, $P = 16 m$.

Base: 4 m
Height: 4 m

Find the area of each figure.

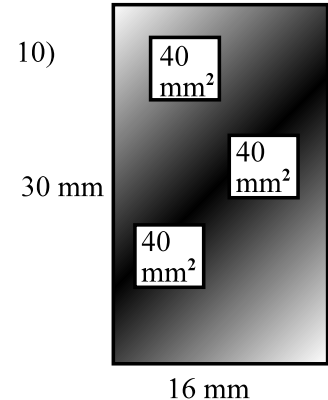
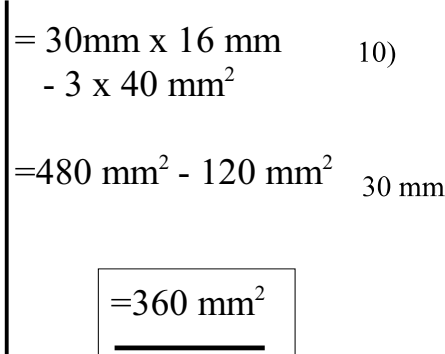
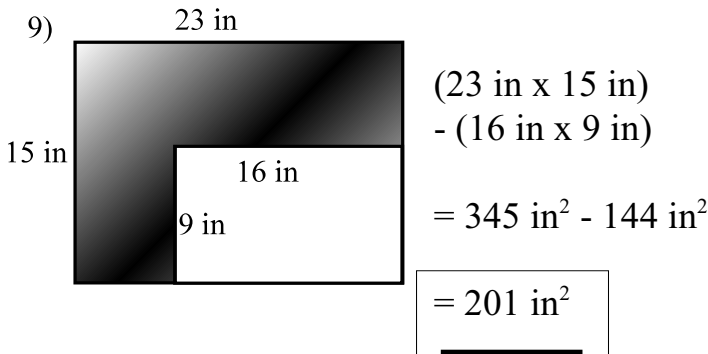


$5m \times 15m + 15m \times 10m = 375m^2 + 150m^2$
 $A = 525m^2$



$A = 18ft \times 12ft - 6ft \times (18ft - 9ft - 3ft)$
 $A = 180 ft^2$

Find the area of the shaded region.



Note that the final answer is the area of the shaded region. 23 in x 15 in is the area of the entire rectangle.

Note: the final answer is the area of the shaded region. 30mm x 16mm is the area of the entire rectangle.

11) Sally loves scrapbooking. The scrapbook page is 12 in. x 15 in.

a. What is the area of the page?

$$= 12 \text{ in} \times 15 \text{ in} = \boxed{180 \text{ in}^2}$$

b. If each picture measures 3 in. square, what is the area of each picture?

$$= \boxed{9 \text{ in}^2}$$

c. How many pictures can Sally put on the page without gaps or overlaps? $180 \text{ in}^2 / 9 \text{ in}^2 =$

$$\boxed{20 \text{ pictures}}$$

d. If each picture cost \$.20 to develop, what is the cost of filling the page? $20 \times \$0.20 =$

$$\boxed{\$4.00}$$

12) Tom is going to cover his kitchen floor with tile. The kitchen is 12 ft long and 20 ft wide.

a. What is the area of the floor?

$$A = b \times h$$

$$A = 12 \text{ ft} \times 20 \text{ ft}$$

$$\boxed{A = 240 \text{ ft}^2}$$

b. If area of each tile is 1 ft^2 , how many tiles will Tom need to cover his floor?

$$240 \text{ ft}^2 / 1 \text{ ft}^2$$

$$\boxed{= 240 \text{ tiles}}$$

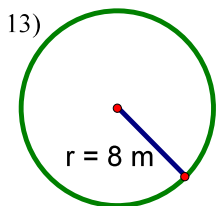
c. How much will all of the tile cost Tom if each piece costs \$1?

$$240 \times \$1 = \boxed{\$240}$$

d. What if each piece costs \$3?

$$240 \times \$3 = \boxed{\$720}$$

Find the area of each circle below in terms of π and to the nearest tenth.



14) $r = 5 \text{ in}$
 $A = \pi r^2$
 $A = \pi \times (5 \text{ in})^2$
 $A = 25\pi \text{ in}^2$
 $A = 78.5 \text{ in}^2$

15) $r = 25 \text{ mm}$
 $A = \pi r^2$
 $A = \pi \times (25 \text{ mm})^2$
 $A = 625\pi \text{ mm}^2$
 $A = 1,963.5 \text{ mm}^2$

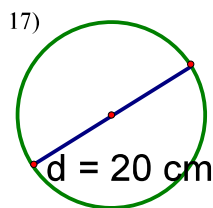
16) $r = 61 \text{ ft}$
 $A = \pi r^2$
 $A = \pi \times (61 \text{ ft})^2$
 $A = 3,721\pi \text{ ft}^2$
 $A = 11,689.9 \text{ ft}^2$

$$A = \pi r^2$$

$$A = \pi (8\text{m})^2$$

$$A = 64\pi \text{ m}^2$$

$$A = 201.1 \text{ m}^2$$



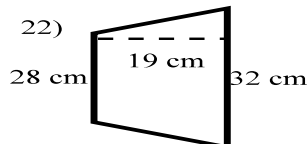
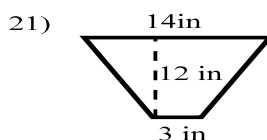
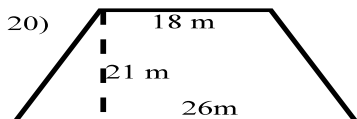
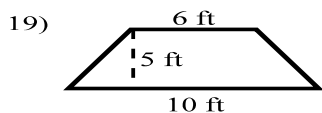
$$A = \pi r^2$$

$$A = \pi (10\text{cm})^2$$

$$A = 100\pi \text{ cm}^2$$

$$A = 314.2 \text{ cm}^2$$

18) $d = 12 \text{ yds}$
 $A = \pi r^2$
 $A = \pi \times (12 \text{ yds} / 2)^2$
 $A = \pi \times (6\text{yds})^2$
 $A = 36\pi \text{ yds}^2$
 $A = 113.1 \text{ yds}^2$



Find the area of each trapezoid.

$$A = (b_1 + b_2) \times h / 2$$

$$A = (6 \text{ ft} + 10 \text{ ft}) \times 5 \text{ ft} / 2$$

$$A = 16 \text{ ft} \times 5 \text{ ft} / 2$$

$$\boxed{A = 40 \text{ ft}^2}$$

$$A = (b_1 + b_2) \times h / 2$$

$$A = (18\text{m} + 26\text{m}) \times 21\text{m} / 2$$

$$A = 44 \text{ m} \times 21 \text{ m} / 2$$

$$\boxed{A = 462 \text{ m}^2}$$

$$A = (b_1 + b_2) \times h / 2$$

$$A = (14\text{in} + 3\text{in}) \times 12\text{in} / 2$$

$$A = 17 \text{ in} \times 12 \text{ in} / 2$$

$$\boxed{A = 102 \text{ in}^2}$$

$$\boxed{A = 570 \text{ cm}^2}$$