

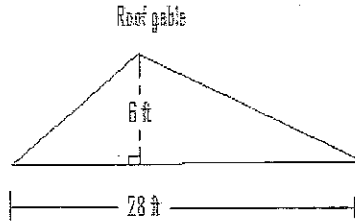
Unit 1 Review
 Geometry in Construction

Name Key

1. Find the area of these building objects.

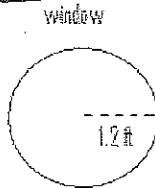
a)

84 sq. ft



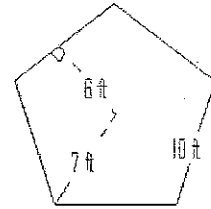
b)

4.52 sq. ft



c)

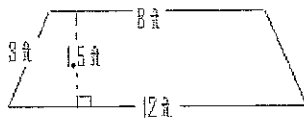
regular pentagon deck



150 sq. ft

d)

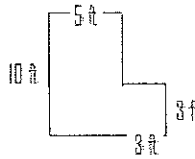
Trapezoidal
 Bay Window floor



15 sq. ft

e)

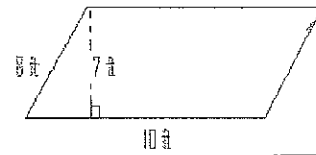
Bath



59 sq. ft

f)

Parallelogram Play yard

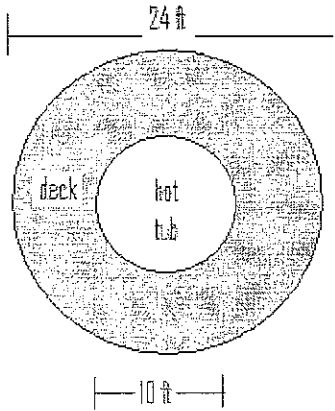


70 sq. ft

2. Find the area of a stop sign which is a regular octagon. Each side is 12 inches and the apothem is 14 inches.

672 sq. in

3. What is the area of the deck surrounding the hot tub.

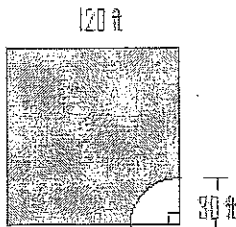


373.85 sq. ft

4. An 8' by 8' wall is being tiled with 4" by 4" tiles. How many tiles do you need?

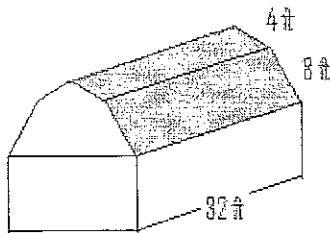
576 tiles

5. Find the area of the grass (shaded) portion of the baseball field. The field is a square.



13,693.14 sq. ft

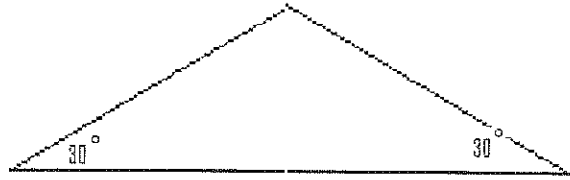
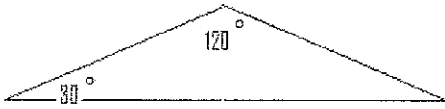
6. Find the surface area of the roof (shaded part). Remember that there are two sides to the roof.



768 sq. ft

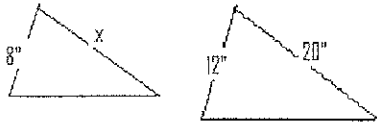
7. Are the two triangular trusses similar? Why or Why not?

Yes, they have the same angles.



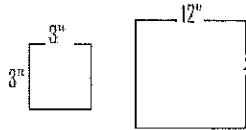
8. Find the missing values. Assume the figures are similar.

a)



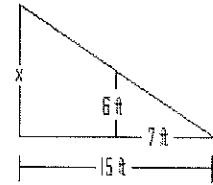
$$x = 13.3''$$

b)



$$x = 12''$$

c)



$$x = 12.86'$$

9. Convert $8' 4''$ into feet so that you can enter it into your calculator.

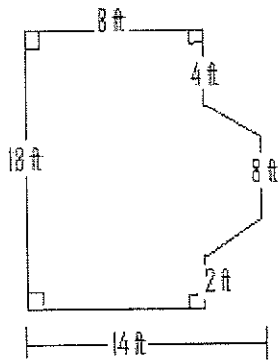
$$8.33$$

10. The sun casts a 13 ft shadow of a pole. The fire hydrant which is 3 ft tall casts a 4 ft shadow. How tall is the pole?

$$9.75 \text{ ft}$$

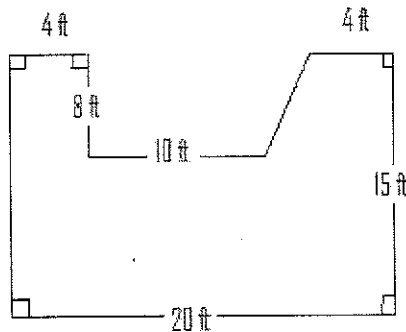
11. Find the area of the decks shown below.

a)



204 sq. ft

b)



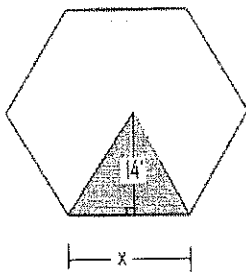
212 sq. ft

12. Find the missing value.

a) The home owner has requested a round gazebo with an area of 78.5 sq ft (25π). What is the radius?

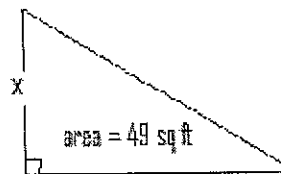
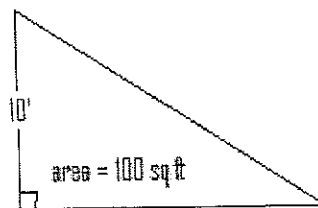
5 ft

b) The hexagon home shown below needs to have the room (shaded area) to be 100 sq ft . What would the length of the side need to be?



$x = 14.29 \text{ ft}$

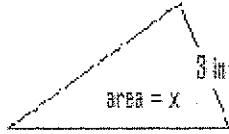
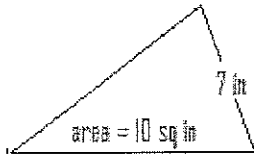
c) The similar triangles are shown. Find the value of x .



$x = 7 \text{ ft}$

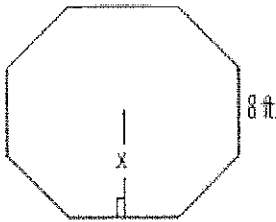
13. Find the missing values. Assume the figures are similar.

a)



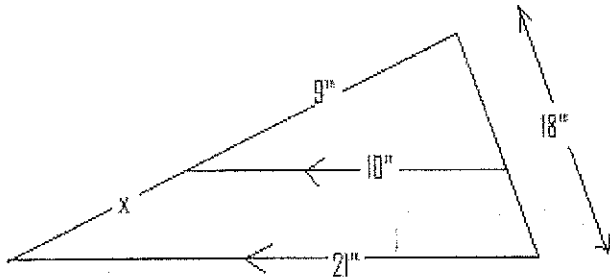
$$\text{Area} = 1.84 \text{ sq. in}$$

b) Area = 96 sq ft of the regular octagon



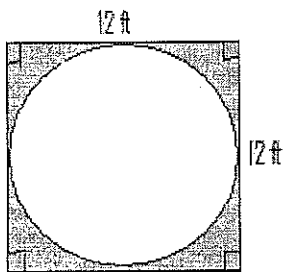
$$x = 3 \text{ ft}$$

c)



$$x = 9.9''$$

14. Find the area of the shaded region.



$$A = 30.90 \text{ sq. ft}$$

15. Solve

a) $x + \frac{7}{9}$

b) $\frac{x+1}{6} = \frac{5}{11}$

16. Looking at a blueprint, you measure 2 sides of a rectangular room.
 One side is $7\frac{1}{4}$ inches and the other side is $6\frac{3}{8}$ inches. The scale is $\frac{1}{8}$ inch = 1 foot

a) What is the real life lengths of the walls (sides)?

$$58' \times 51'$$

b) What is the real life area of the room?

$$2958 \text{ sq. ft}$$

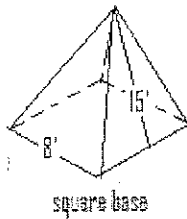
17. Find the surface area (include all surfaces).

a)



$$188.5 \text{ sq. ft}$$

b)



square base

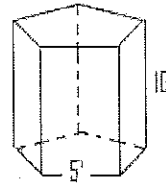
$$304 \text{ sq. ft}$$

c)



$$100.09 \text{ sq. ft}$$

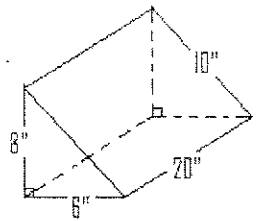
d)



regular pentagon
 apothem = 4'

$$350 \text{ sq. ft}$$

e)



$$528 \text{ sq. in}$$