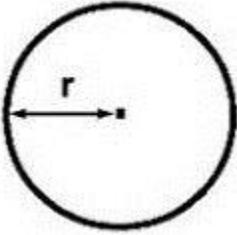


Calculating Square Footage



Circle

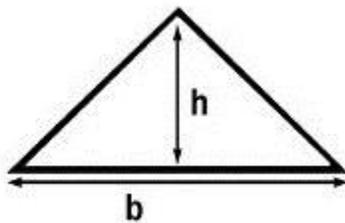
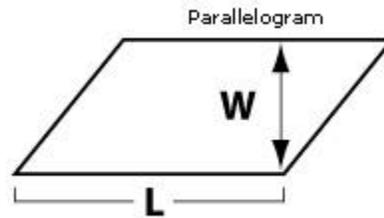
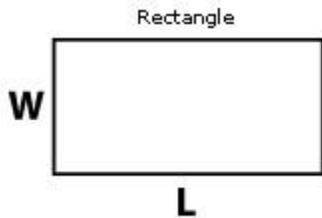
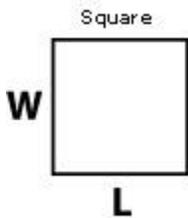
Radius x Radius x 3.14= Area

Example:

$$10 \times 10 = 100 \times 3.14 = 314 \text{sqft}$$

Rectangular Shapes

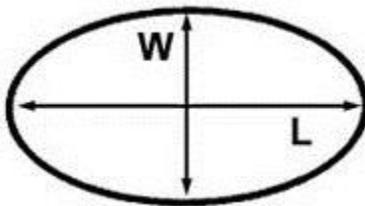
These shapes are defined by the opposite sides being straight, parallel, and of equal length. The area of all 3 shapes is found by multiplying the length (L) times the width (W).



Triangle

Consider the longest side of the triangle the base. Measure a perpendicular line from the opposite angle to the base to determine the triangle's height.

Multiply the base by the height, and divide that number in half to determine the area.



Oval

The area of an oval is found by multiplying the width (W) times the length (L), then multiplying the result by 0.8

Square Footage of Pentagons, Hexagons & Octagons

Square Footage of a Pentagon (5 Equal Sided Shape)

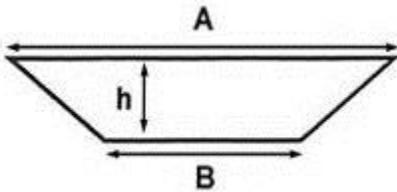
$(\text{Length of 1 Side})^2 \times 1.7$

Square Footage of a Hexagon (6 Equal Sided Shape)

$(\text{Length of 1 Side})^2 \times 2.6$

Square Footage of a Octagon (8 Equal Sided Shape)

$(\text{Length of 1 Side})^2 \times 4.84$

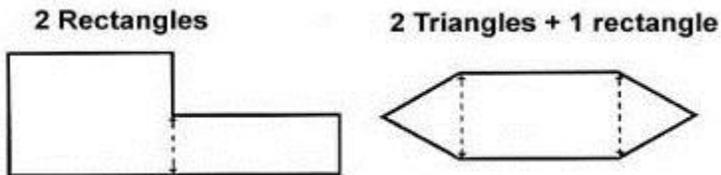


Trapezoid

The area of a trapezoid is found by first finding the average length of the parallel sides $(A + B) / 2$, then multiplying the result times the height (h).

Compound Simple Shapes

Many landscape areas can be sub-divided into multiple, simple shapes. In these cases, use the formulas for the simple shapes and add the results for the total square footage. See the appropriate formula in other sections of this article



Odd Shapes

The method used for irregular shaped areas is called the "offset method". First measure the length of the longest axis of the area (line AB). This is called the length line. Next, divide the length line into equal sections, for example 10 ft. At each of these points, measure the distance across the area in a line perpendicular to the length line at each point (lines C through G). These lines are called offset lines. Finally, add the lengths of all offset lines and multiply the result times the distance that separates these lines (10 ft. in this example).

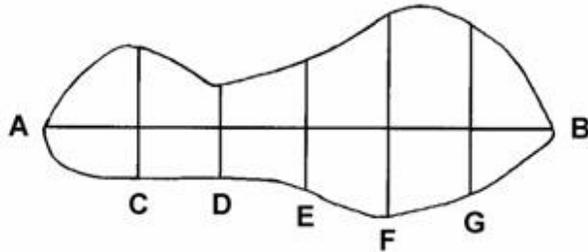
Length line (AB) = 60 ft., distance between offset lines is 10 ft apart

Length of each offset line:

C = 15ft, D = 10ft, E = 15ft, F = 25ft, G = 20ft

Total length of offset lines = C(15) + D(10) + E(15) + F(25) + G(20) = 85 ft

Area = Distance between offset lines (10ft) x sum of the length of the offset lines (85ft) = 850 Square Feet



Sand, Gravel and Dirt

Length x Width x Depth Divided by 27 = Cubic Yards x 1.35 = Tonnage x 1.33 = Compacted Tons

LENGTH X WIDTH = SQUARE FT.

Example: 10 x 10 = 100 Sq. Ft.

SQUARE FT. X DEPTH = CUBIC FT.

Example: 100 x .5 (OR 6 INCHES) = 50 Cubic Ft.

CUBIC FT. DIVIDED BY 27 = CUBIC YARDS

Example: 50 divided by 27 = 1.852 Cubic Yards

CUBIC YARDS X 1.35 = TONS

Example: 1.852 Cubic Yards x 1.35 = 2.501 Tons

1.35 works for most aggregate. For dirt use 1.45 to convert to tons.

Compacted Tons

2.501 X 1.33 = 3.327 Tons

What we find here is that in a 10 by 10 area, going 6 inches deep we would need 3.327 ton of aggregate after compaction.

Calculating Pond Liner

Pond

$2 \times \text{Pond depth} + \text{maximum pond length} + 1 \text{ foot extra} = \text{Liner length}$

$2 \times \text{Pond depth} + \text{maximum pond width} + 1 \text{ foot extra} = \text{Liner width}$

Stream

Maximum length + 5 foot for every 15' of stream

Example: 30' stream 40' liner

Liner width for stream = maximum width + 3 = liner width

Note: liner comes in 10', 15', 20', 25', ect.

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