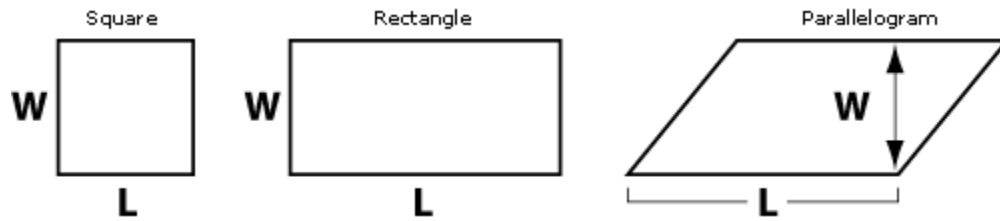


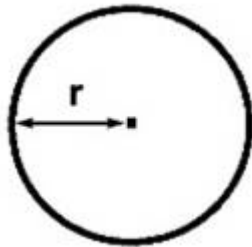
Shapes and Formulas



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).

Formula
Area = L (length) x W (width)
Example
Area = L (length) x W (width) L = 75 ft, W = 25 ft
<ul style="list-style-type: none">• Area = 75 x 25• = 1875 ft²

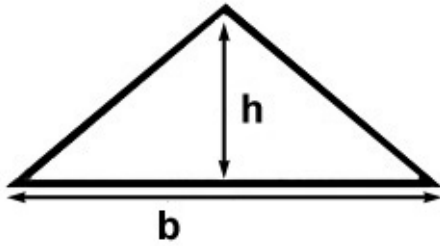
Circle



The area of a circle is found by multiplying the constant pi (π , or 3.14) times the square of the radius. The radius is $\frac{1}{2}$ of the diameter.

Formula
Area = $\pi \times r^2$
<ul style="list-style-type: none">• π (pi) = 3.14• r^2 (radius squared) = $r \times r$
Example
Area = $\pi \times r^2$
<ul style="list-style-type: none">• $r = 6$ ftArea = $\pi \times r^2$• = 3.14 x (6 x 6)• = 3.14 x 36• = 113 ft²

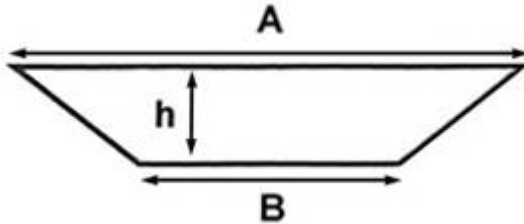
Triangle



The area of a triangle is found by multiplying the length of the base times the length of the height, then dividing this result by 2.

Formula
Area = $(b \times h) \div 2$ • b = length of base • h = length of height
Example
Area = $(b \times h) \div 2$ • b = 10 ft, h = 5 ft Area = $(b \times h) \div 2$ • = $(10 \times 5) \div 2$ • = $50 \div 2$ • = 25 ft^2

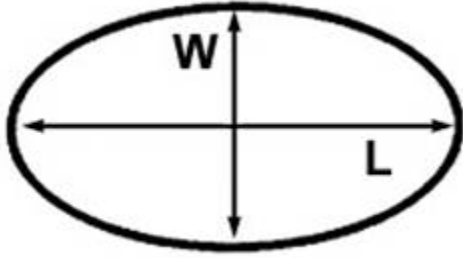
Trapezoid



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

Formula
Area = $[(A + B) \div 2] \times h$
Example
Area = $[(A + B) \div 2] \times h$ • A = 20 ft, B = 10 ft, h = 5ft Area = $[(A + B) \div 2] \times h$ • = $[(20 + 10) \div 2] \times 5$ • = $[30 \div 2] \times 5$ • = 15×5 • = 75 ft^2

Oval

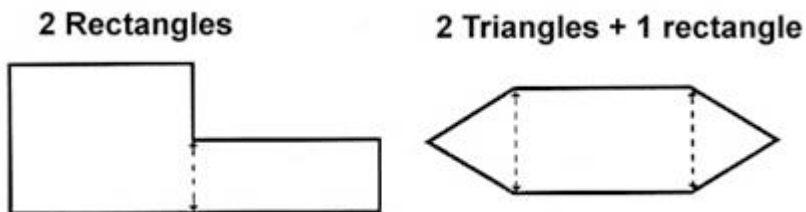


The area of an oval is found by multiplying the width (W) times the length (L), then multiplying the result by 0.8

Formula
Area = (W x L) x 0.8 • W = width • L = length
Example
Area = (W x L) x 0.8 • W = 10 ft , L = 20 ft Area = (W x L) x 0.8 • = (10 x 20) x 0.8 • = 200 x 0.8 • = 160 ft ²

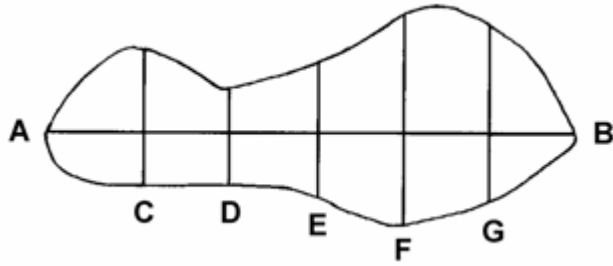
Compound Simple Shapes

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).



Example

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

- Length of each offset line

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

Total length of offset lines = C + D + E + F + G

- = 15 + 10 + 15 + 25 + 20

- = 85 ft

Area to fertilize = Distance between offset lines x sum of the length of the offset lines

- = 10 ft x 85 ft

- = 850 ft²

Other Formulas

Shape	Formula
Pentagon (5 equal sides)	(length of 1 side) ² x 1.7
Hexagon (6 equal sides)	(length of 1 side) ² x 2.6
Octagon (8 equal sides)	(length of 1 side) ² x 4.84