

Area & Perimeter

A = Area of a shape or polygon
P = Perimeter
L = length **w** = width
h = height **b** = base
C = Circumference
d = diameter **r** = radius
 π is *pi*, 3.1416

Square
A = L x L **or** **A**=L²
P = L + L + L + L
or **P**=4L



Rectangle
A = L x w
P = L + L + w + w
or **P**= 2(L + w)



Parallelogram
A = L x h
P = L + L + w + w
or **P**= 2(L + w)



Trapezoid
A = [(L₁ + L₂) / 2] x w
P = L₁ + L₂ + 2w



Triangle
A = ½ b x h
or **A**= (b x h) / 2
P = a + b + c



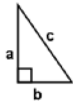
Circle
A = r² x π **or** **A**= r² x 3.1416
C = 2r x π **or** **C**= d x 3.1416



If dimensions of a shape are measured in feet, calculate acres by dividing the area (square feet – sq ft or ft²) by 43,560 (ft²/A).

Dimensions of a Square or Circle — Acres			
Square	Acres	Circle	
length of side		diameter,	radius
L =209'	1 A	d=236'	r=118'
L =295'	2 A	d=333'	r=167'
L =466'	5 A	d=527'	r=264'
L =660'	10 A	d=745'	r=373'
L =933'	20 A	d=1053'	r=527'

To find the length of **c**, the hypotenuse or the longest side of a right triangle, use c² = (a² + b²); length is the square root of c².



How to lay out a right angle for field or fence corners: A triangle with sides that are multiples of 3, 4 and 5 will always have right angle where the sides measuring multiples of 3 and 4 meet.

Equivalents & Conversions

Weight
1 oz = 28.4 g
16 oz = 1 lb
2000 lb = 1 ton
20 cwt = 1 ton
1 lb = 0.45 kg
1 kg = 1000 g = 1,000,000 mg
1 kg = 2.2 lb
1000 kg = 1 metric ton = 2204 lb
1 gal = 8.345 lb (water)

Length
1 in = 2.54 cm
12 in = 1 ft = 30.48 cm
36 in = 3 ft = 1 yd
1 yd = 0.9144 m
1 m = 39.37 in = 1.094 yd
1 mi = 5280 ft = 1760 yd = 1.609 km
1 km = 1000 m = 0.6217 mi
¼ mi = 1320 feet
1 rod = 16.5 ft = 5.5 yd
1 vara = 33.3 in = 0.93 yd = 0.85 m

Area - Square Measure
1 sq ft (ft²) = 144 sq in (in²)
1 yd² = 9 ft² = 0.836 m²
1 A = 43,560 ft²
1 A = 160 rod²
1 A = 0.42 ha
1 ha = 10,000 m² = 2.47 A
1 manzana = 10,000 varas² = 1.77 A
1 sq mi (1 section) = 640 A
1 sq mi = 259 ha

Volumes - Cubic Measure
1 oz = 30 ml
1 pt = 16 oz
1 qt = 32 oz = 2 pt
1 cm³ = 1 ml
1 l = 1000 ml (or cm³) = 1.06 qt
1 qt = 0.946 l
1 gal = 4 qt = 8 pt = 128 oz
1 gal (liquid) = 231 in³ = 3.785 l
1 gal (dry) = 268 in³
1 ft³ = 728 in³ = 7.48 gal (liquid)
1 ft³ = 28.3 l
1 bu = 1.24 ft³ = 35.2 l
1 yd³ = 27 ft³ = 21.7 bu = 765 l
1 ac in of water = 27154 gal = 3630 ft³
1 cord (wood) = 128 ft³ (4' x 4' x 8')

Equivalents & Conversion Rates

Dilution Liquid Measure	
per 100 gallons	per gallon
1/4 pt	1/4 tsp
1 pt	1 tsp
1 qt	2 tsp
1 gal	2.5 Tbsp (1 fl oz)
2 gal	5 Tbsp (2.5 fl oz)
4 gal	1/3 pt (5 fl oz)
10 gal	3/4 pt (13 fl oz)

Dilution Dry Measure	
per 100 gallons	per gallon
1/2 lb	1/12 oz
1 lb	1/6 oz
2 lb	1/3 oz
3 lb	1/2 oz
5 lb	3/4 oz

Temperature Conversions		
°F (Fahrenheit) = (°C x 1.8) + 32		
°C (Celsius) = (°F - 32) x 0.56		
°C	temperature	°F
-40	(same)	-40
0	water freezes	32
16	(reciprocal)	61
20-25	room temp	68-77
37	human body	99
100	water boils	212

Rates
1 oz/ft³ = 2773 lb/A
1 oz/yd³ = 303 lb/A
1 oz/100 ft³ = 27 lb/A
1 lb/100 ft³ = 436 lb/A
1 pt/1000 ft³ = 5.4 gpa
2.3 gal/1000 ft³ = 100 gpa
1 qt/100 ft³ = 100 gpa
1 ac in/hr = 450 gpm
1 ppm = 0.013 fl oz/100 gal (water)
1 ppm = 1 ml/l
1 % solution = 1.33 fl oz/gal
1 ft³/sec = about 450 gal/min
1 ft³/sec = 1 ac in/hr
1 ft /sec (fps) = 1.47 mph
1 fps = 22/15 mph
55 mph = 88 km/h
100 lb/A = 2.5 lb/1000 ft²

Equivalents
1 bu (ear corn) = 2.5 ft³
1 bu (shelled corn) = 1.2 ft³
1 ton (corn, sorghum, rye) = 35.7 bu
1 ton (wheat, soybeans) = 33.3 bu
1 cup dry fertilizer -- about ½ lb
1 qt dry fertilizer -- about 1½ lb
1 qt dolomite -- just over ½ lb

Harvest Losses
1 ear corn per 1/1000 A = 1 bu/A
20 kernels corn per10 ft² = 1 bu/A
40 soybeans /10 ft² = 1 bu/A
10 peanuts /10 ft² = 140-150 lb/A
¾ oz cotton per 1/100 A = 5 lb/A

Inches in Row	Thousands of Plants at Row Widths of:								Plants / 100'
1"	784	523	349	261	224	196	174	157	1200
2"	392	261	174	131	112	98	88	79	600
4"	196	131	88	66	56	49	44	40	300
6"	131	88	59	44	38	33	29	27	200
8"	98	66	44	33	28	25	22	20	150
10"	79	53	35	27	23	20	18	16	120
12"	66	44	30	22	19	17	15	14	100
18"	44	29	20	15	12	11	10	9	67
24"	33	22	15	11	10	9	8	7	50

(rounded up to the nearest 1000)

Average Person's Reaction Time		
tractor speed	stopping distance	distance traveled
2 mph	6 ft	1.5 ft
5 mph	12 ft	3.7 ft
10 mph	30 ft	7.3 ft
15 mph	44 ft	11.0 ft
20 mph	64 ft	14.3 ft

100 Bedding Plants	
spaced at:	will cover:
4" x 4"	11 sq ft (ft ²)
6" x 6"	25 sq ft (ft ²)
8" x 8"	44 sq ft (ft ²)
10" x 10"	70 sq ft (ft ²)
12" x 12"	100 sq ft (ft ²)
15" x 15"	156 sq ft (ft ²)