

**Sample Math Formulas**  
**Provided by Cape Cod Plumbing School**  
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1 CU.FT. of Water = 62.5 LBS  
1 CU.FT. of Water = 7.5 GLS  
1 CU.FT. of Water = 1728 CU.IN.  
1 CU.IN. of Water = .036 LBS.  
1 GAL. of Water = 8.33 LBS.  
1 GAL. of Water = 231 CU.IN.  
1 CU.IN. of Water = .0043 GLS.

1 INCH = .083 FT.  
1/8 of an INCH = .01 FT.  
1 TON = 2000 LBS.  
1 CU. YARD = 27 CU.FT.  
1 SQ.FT. = 144 SQ.IN.  
4" PIPE 18" LONG = 1 GAL.

DOUBLING DIA. = 4 X CAPACITY  
A CIRCLE = 360 DEGREES  
1 THERM = 100,000 BTU  
To compute how many 2" pipes  
It would take to equal the area  
Of a 6" pipe?  
SQ. Both diameters & divide the  
Smaller DIA. into the larger

B.T.U. is the amount of heat  
Required to raise the tempera-  
ture of 1 LB. of water 1 degree

A column of water 1' high  
1 SQ.IN. at it's base = .434 LBS.  
PRESSURE PER SQ.IN = H FT. X .434

1 LB. PER SQ.IN. of pressure  
will support a column of  
water 2.31' high

PI = 3.14 or 22/7

Copper tubing expands .000113  
IN. per FT. per DEGREE RISE

Boiling Point of Water = 212 Degrees F

Area of a Circle = DIA.SQ. X .7854  
Or PI X Radius SQ.  
Circumference of a Circle  
PI X DIA. = 3.14 X DIA.

**1-800-479-2633**

CAPACITY IN GALS. Of PIPES & TANKS  
DIA.IN.SQ. X L- IN. X .0034  
DIA.IN.SQ. X L- FT. X .0408  
DIA.FT.SQ. X L- FT. X 5.87

CAPACITIES OF RECTANGULAR TANKS  
L- FT. X W-FT. X D-FT. = CU.FT.  
X 7.5 = GLS.  
L- IN. X W- IN. X D- IN. = CU.IN.  
DIV. by 231 = GALS.

OFF-SET CONSTANTS  
22 ½ Deg. = 2.61 X OFFSET = TRAVEL  
45 Deg = 1.41 X OFFSET = TRAVEL  
60 Deg. = 1.15 X OFFSET = TRAVEL  
TRAVEL X .707 = OFFSET OR  
ADVANCE FOR 45 FITTINGS

FALL OR RISE = RUN X PITCH PER FT.  
PITCH PER FT. = RISE DIV. BY RUN

B.T.U. = GLS. X 8.33 X DEGREE RISE

Common gas vent connectors  
Largest area + 50% of additional  
gas vents

To change the decimal of a foot  
to inches multiply by 12

To find the area of a triangle base X Altitude  
divided by 2 to find the area of a rectangle  
Length X Width

To square a number multiply it by itself  
To cube a number multiply it 3 times

1 SQ.FT. = 144 SQ.IN.  
1 SQ.YD. = 9 SQ.FT.

16 OZ. = 1 LB.  
20 OZ. = 1.25 LBS.

Working Pressure = 50% of test  
Pressure

**508-790-2388**

