

To convert pressure (in pounds per square feet) to "Feet of Head" pressure, use the following formula:  $FT = 2.31 \times \text{psi}$

One U.S. gallon of water contains 231 cu inches and weighs about 8.333 pounds.

A cubic foot of water contains about 7.50 gallons and weighs about 62.5 pounds.

To find the pressure in "psi" of a column of water, multiply the height of the column in feet by .434.

One pound of water occupies 27.70 cubic inches.

One cubic foot of salt water weighs about 64.33 pounds.

One standard "barrel" of water contains 31.50 gallons.

Barrels per day (42 gallons)  $\times .02917 =$  gallons per minute

Friction of liquids in piping increases as the square of the velocity.

Doubling the diameter of a pipe increases its capacity four times.

A "miner's inch" of water is approximately equal to a supply of 12 gpm (9 in some states).

The gallons per minute which a pipe will deliver equals .0408 times the square of the diameter in inches, multiplied by the velocity of water in feet per minute.

To find the capacity of a pipe or cylinder in gallons, multiply the square of the diameter in inches by the length in inches then multiply by .0034.

The weight of water (in pounds) in any length pipe is obtained by multiplying the length in feet by the square of the diameter in inches then multiply by .340.

One common water pail will hold 2.27 U.S. gallons or about 19 pounds of water.

Sharp angles or sudden bends in pipes cause an increase in friction and, consequently, more power is necessary.

Where change of direction is desired, it should be made with long, easy curves or by using 45 degree elbows whenever possible.

About 80% of the earth's surface is covered by water.

Around 97% of the earth's water is contained in the oceans, 2% is in glaciers and icecaps; the remaining 1% is found in other surface waters, groundwater and living tissue.

Rainfall in the U.S. ranges from about 7-130 inches per year depending on geography, averaging out to about 30 inches.

About 52% of our fresh water is used for industrial processes; 40% for irrigation, and 8% for all other uses.

Man can survive for about 30 days without food but only about 7 days without sufficient water.

The average human contains about 10 gallons of water or around 65% of bodyweight.

Bone is about 20% water, the brain about 80%.

An average man needs about 2.50 gallons of water per day for proper health (from foods and beverages).

It is currently estimated that per capita consumption of water in the U.S. is 70-100 gallons per day for all uses.

Water boils at 212°F (100°C) and freezes at 32°F (0°C).

Most things contract when they freeze. Water, however, is one of the very few things that expands (by about 10%).

To find the circumference of a circle, multiply the diameter by 3.1416.

To find the circumference of a circle, multiply the radius by 6.283185.

To find the diameter of a circle, multiply the circumference by .31831.

To find the diameter of a circle, multiply the square root of the area by 1.12838.

To find the radius of a circle, multiply the square root of the area by 0.56419.

To find the area of a circle, multiply the square of the diameter by .7854.

To find the area of a circle, multiply the square of the circumference by 0.07958.

To find the surface of a sphere, multiply the square of the diameter by 3.1416.

To find the cubic inches in a sphere, multiply the cube of the diameter by .5236.

To find the U.S. gallon capacity of any size tank with given dimensions of the cylinder in inches, multiply the square of the diameter by the length then multiply by .0034.

Steam rising from water at its boiling point has a pressure equal to the atmosphere (14.7 psi).

The expansion of water from its freezing point to boiling is 1 gallon in each 23 or approximately 4.333%.

SOURCE: *Water Well Handbook*, Keith Anderson, pp. 39 & 254, 1989