

Weight Conversions

Troy Ounces

A unit of apothecary weight equal to 480 grains or one twelfth of a troy pound

Troy Ounces to Grams formula

$$g = t \text{ oz} / 0.032151$$

Pennyweights

A measure of Troy weight equalling 24 grains or the twentieth part of a Troy ounce (there are 12 ounces in a pound Troy). Pennyweight is usually abbreviated dwt.

Pennyweights to Grams formula

$$g = \text{dwt} / 0.64301$$

Grams

A metric unit of weight equal to one thousandth of a kilogram

Grams to Pennyweights formula

$$\text{dwt} = g * 0.64301$$

Grams to Troy Ounces formula

$$t \text{ oz} = g * 0.032151$$

Carats

Abbreviated "ct." and spelled with a "c" is a measure of weight used for gemstones. One carat is equal to 1/5 of a gram (200 milligrams). Stones are measured to the nearest hundredth of a carat. A hundredth of a carat is also called a point. Thus a .10 carat stone can be called either 10 points, or 1/10 of a carat. Small stones like .05, and .10ct are most often referred to by point designations. Note that karat with a "K" is a measure of the purity of a gold alloy. A one carat round diamond of average proportions is approximately 6.5mm in diameter. Note that this relationship of weight and size is different for each family of stones. For example ruby and sapphire are both heavier than diamond (technically, they have a higher specific gravity, so a 1 carat ruby or sapphire is smaller in size than a one carat diamond. See Weights and Measures of Gold, Silver and Precious Gems for more information.

Carats to Grams formula

$$g = \text{ct} / 5.0000$$

Grams to Carats formula

$$\text{ct} = g * 5.0000$$