Supplement

Density and Temperature Calc.

Density:

(1) Some metal chips of volume 3.29 cm^3 are found to have the weight of 18.432g. What is the density of this metal in g/mL?

$$d = \frac{m}{V} = \frac{18.432g}{3.29 cm^3} = \frac{18.432g}{3.29mL} = \boxed{5.60 g/m}$$

$1 cm^3 = 1 mL$

$$3.29 cm^3 \times \frac{1 mL}{1 cm^3} = \boxed{3.29 mL}$$

Temperature

(1) Convert the following:

(a) 28.5°C to °F

$$F = (1.8 °C) + 32 = (1.8 \times 28.5) + 32 = \boxed{83.3 °F}$$

(b) 1948.7°F to °C

$$°C = \frac{F - 32}{1.8} = \frac{1948.7°F - 32}{1.8} = 1064.76 \equiv \boxed{1064.8 °C}$$

(c) 321°F to K.

°F → °C → K.

$$°C = \frac{321 - 32}{1.8} = 160.56 °C$$

$$160.56 + 273 = 433.56 \equiv \boxed{434 K}$$