Name and Section _Solutions_

1. What is 2 ounces per cubic inch in terms of grams per cubic centimeter if 1 inch is 2.54 centimeters and 1 ounce is 28.35 grams. Round your answer to 2 digits after the decimal.

$$2 \; oz/in^3 = 2 \times 28.35 \; g/in^3 \qquad since \quad 1 \, oz. = 28.35 g$$

$$= \frac{2 \times 28.35}{(2.54)^3} \; g/cm^3 \qquad since \quad 1 \, in^3 = (2.54)^3 cm^3$$

$$\simeq 3.46 \; g/cm^3$$

2. Solve for x in terms of α if

$$\frac{\alpha}{x} - 5 = \frac{11}{\frac{\alpha}{x} + 5}.$$

Simplify as much as you can.

$$\left(\frac{\alpha}{x} - 5\right)\left(\frac{\alpha}{x} + 5\right) = 11$$

$$\left(\frac{\alpha}{x}\right)^2 - 25 = 11$$

$$\left(\frac{\alpha}{x}\right)^2 = 36$$

$$\frac{\alpha}{x} = \pm 6$$

$$x = \pm \frac{\alpha}{6}$$