

Group Quiz - Ch12

Name Key

Date 10-8-09

1. You need to pave a driveway 8ft wide by 120 ft long. If the concrete needs to be 4" thick how many cubic yards of concrete will be needed? ($1\text{yd}^3 = 27\text{ft}^3$)

$$V = lwh = (120\text{ft})(8\text{ft})\left(\frac{1}{3}\text{ft}\right) = 320\text{ft}^3$$

$$V = 320\text{ft}^3 \left(\frac{1\text{yd}^3}{27\text{ft}^3}\right) = \boxed{11.85\text{yd}^3}$$

2. You have a gallon ($3.8\text{ liters} = 3.8 \times 10^3\text{ cm}^3$) of paint and you wish to paint a wall so that the paint is .05 cm thick. How much area will it cover?

$$V = lwh = 3.8 \times 10^3\text{ cm}^3$$

$$h = .05\text{ cm}$$

$$A = lw = \frac{3.8 \times 10^3}{.05} = 76000\text{ cm}^2$$

or 7.6 m^2

3. A spool of wire 120 m long weighs 18 N. What is its linear density λ (N/m)?

$$\lambda = \frac{18\text{ N}}{120\text{ m}} = \boxed{.15\text{ N/m}}$$

