

8.2 Foundations of Math II

P. 467 #3-12

3. $\frac{32 \text{ turns}}{24 \text{ mm}} = \frac{x \text{ turns}}{42 \text{ mm}}$ cross-multiply

$$1344 = 24x$$

$$56 = x$$

56 turns

4. $\frac{12 \text{ wins}}{20 \text{ games}} = \frac{x \text{ wins}}{30 \text{ games}}$

$$360 = 20x$$

$$18 = x$$

18 wins

5. $\frac{\$40}{8 \text{ mon}} = \frac{\$x}{12 \text{ mon}}$

$$480 = 8x$$

$$60 = x$$

\$60 per yr.

$$\frac{60}{1000} = 0.6 = 6\%$$

6. a) \$7.23/kg price of peanuts

b) 20 ml/90kg salt needed for popcorn

c) \$1.08/100kg price of pepperoni

d) $-1.5^\circ\text{C}/\text{km}$ drop in temperature as you rise in a hot air balloon

e) 20 g/L hot choc powder for hot milk

f) \$4.99/ft² cost of flooring

p. 467 cont.

7. $1.5 \text{ GB} = 1.5 (1024) \text{ MB} = 1536 \text{ MB}$

$$\frac{12 \text{ MB}}{2 \text{ s}} = 6 \text{ MB/s}$$

$$1536 \text{ MB} \cdot \frac{1 \text{ sec}}{6 \text{ MB}} = \frac{1536 \text{ sec}}{6} = 256 \text{ sec}$$

$$256 \text{ sec} = 240 \text{ sec} + 16 \text{ sec} = 4 \text{ min } 16 \text{ sec}$$

8. $2.68 \text{ kg} = \frac{2.2 \text{ lb}}{1 \text{ kg}} = 5.896 \text{ lb}$

$$\frac{2 \text{ lb}}{15 \text{ min}} = \frac{5.896 \text{ lb}}{x \text{ min}}$$

$$88.44 = 2x$$

$$44.22 = x$$

44 min.

9. $10 \text{ mL} = 10 \text{ cc}$ $\frac{10}{0.5} = 20 \text{ adults}$

10. $\frac{50 \text{ h}}{3 \text{ wk}} = \frac{x \text{ h}}{52 \text{ wk}}$

$$2600 = 3x$$

$$866.67 = x$$

867 hrs

11. a) $36 \text{ hr } 12 \text{ min} = 36 \frac{12}{60} \text{ hr} = 36.2 \text{ hr}$

$$\frac{2359 \text{ km}}{36.2 \text{ hr}} = 65.2 \text{ km/hr}$$

b) $\frac{2359 \text{ km}}{231.2 \text{ L}} = \frac{100 \text{ km}}{x \text{ L}}$

$$2359x = 23120$$

$$x = 9.8 \text{ km}$$

9.8 km/100 km

D. 467 cont.

11. c) $\frac{\$252.05}{231.2 \text{ L}} = \$1.09/\text{L}$

12. car: $1250 \text{ kg} \cdot \frac{2.2 \text{ lb}}{1 \text{ kg}} = 2750 \text{ lb} \cdot \frac{\$0.2015}{1 \text{ lb}} = \554.13

other: $550 \text{ lb} \cdot \frac{\$0.2734}{1 \text{ lb}} = \150.37

$$\begin{aligned} \text{total} &= 554.13 + 150.37 \\ &= \$704.50 \end{aligned}$$