

$$1. 125 \text{ cm} \times \frac{1 \text{ in}}{2.54 \text{ cm}} = \boxed{49.2 \text{ in.}}$$

$$2. 27.3 \text{ FE} \times \frac{1 \text{ mi}}{5280 \text{ Ft}} = \boxed{.00517 \text{ mi}} \quad (\text{or } 5.17 \times 10^{-3} \text{ mi})$$

$$3. 150 \text{ lb.} \times \frac{16 \text{ oz}}{1 \text{ lb}} \times \frac{28.34 \text{ g}}{1 \text{ oz}} = 68016 = \boxed{68000 \text{ g}} \quad (\text{or } 6.8 \times 10^4 \text{ g})$$

$$4. 7 \text{ Ft} \times \frac{12 \text{ in}}{1 \text{ Ft}} \times \frac{2.54 \text{ cm}}{1 \text{ in}} \times \frac{1 \text{ m}}{100 \text{ cm}} = 2.1336 = \boxed{2 \text{ m.}}$$

$$5. 2.0 \text{ m} \times \frac{100 \text{ cm}}{1 \text{ m}} \times \frac{1 \text{ in}}{2.54 \text{ cm}} = 78.74 = \boxed{79 \text{ in.}}$$

$$6. 1 \text{ gal.} \times \frac{4 \text{ qt.}}{1 \text{ gal}} \times \frac{1 \text{ L}}{1.06 \text{ qt.}} \times \frac{1000 \text{ mL}}{1 \text{ L}} = 3773 = \boxed{4000 \text{ mL}}$$

$$7. 14 \text{ gal} \xrightarrow{\text{same conversions!}} = 52830 = \boxed{53000 \text{ mL}}$$

$$\therefore 150 \text{ mL} \times \frac{1 \text{ L}}{1000 \text{ mL}} \times \frac{1 \text{ dm}^3}{1 \text{ L}} \times \left( \frac{10 \text{ cm}}{1 \text{ dm}} \right)^3 = \boxed{150 \text{ cm}^3}$$

(or  $150 \text{ mL} \times \frac{1 \text{ cm}^3}{1 \text{ mL}} = 150 \text{ cm}^3$  if you recall that!)

$$9. \frac{62.4 \text{ lb}}{\text{ft}^3} \times \frac{1602.}{1 \text{ lb}} \times \frac{28.34 \text{ g}}{102.} \times \left( \frac{1 \text{ ft}}{12 \text{ in}} \right)^3 \times \left( \frac{1 \text{ in}}{2.54 \text{ cm}} \right)^3 = 9992$$

$$= 1.000 \text{ g/cm}^3$$

$$10. 100 \text{ m/s} \Rightarrow \frac{100 \text{ m}}{\text{s}} \times \frac{60 \text{ s}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{100 \text{ cm}}{1 \text{ m}} \times \frac{1 \text{ in}}{2.54 \text{ cm}}$$

$$\times \frac{1 \text{ ft}}{12 \text{ in}} \times \frac{5280 \text{ ft}}{1 \text{ mi}} = 2684 = \boxed{3000 \text{ mph}}$$

$$11. (\text{your age in years}) \times \frac{365 \text{ da}}{1 \text{ yr}} \times \frac{24 \text{ hr}}{1 \text{ da}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{70 \text{ beats}}{1 \text{ min}}$$

$$= \text{answer!}$$

2. same as above but replace  $\frac{70 \text{ beat}}{1 \text{ min}}$  with  $\frac{12 \text{ blinks}}{1 \text{ min}}$  |

$$3. 10^6 \times \frac{1 \text{ min}}{10 \text{ numbers}} = \boxed{10.6 \text{ min}}$$

$$4. (\text{whatever weight you can carry}) : 50.0 \text{ lb} \times \frac{1602}{1 \text{ lb}} \times \frac{28.34 \text{ g}}{102} \times \frac{\$1 \text{ bill}}{1.0 \text{ g}} \times \frac{\text{"million" bills}}{10^6 \text{ bills}}$$

$$= .022672 = \boxed{.023 \text{ million dollars}}$$

$$15. 180 \text{ cm} \times 30 \text{ cm} \times 6.0 \text{ cm} \times \frac{100 \text{ cm}}{1 \text{ m}} \times \frac{1 \text{ mL}}{10 \text{ cm}^3} \times \frac{20 \text{ drops}}{1 \text{ mL}} = \boxed{5.4 \times 10^7 \text{ drops}}$$

$$16. 50m \times 30m \times 6.0m \times \left( \frac{100cm}{1m} \right)^3 \times \frac{1mL}{1cm^3} \times \frac{20drops}{1mL} = \boxed{1.8 \times 10^{11} \text{ drops}}$$

$$17. 3mi \times \frac{2000yd}{1mi} \times 12ft. \times \frac{5280ft}{1mi} \times \frac{3ft}{1yd} \times \left( \frac{12in}{1ft} \right)^3 \times \left( \frac{2.54cm}{.1in} \right)^3 \times \frac{1mL}{1cm^3} \times \frac{20drops}{1mL} = \boxed{8 \times 10^{14} \text{ drops}}$$

$$18. 20mi \times 30mi \times 2.6ft \times \left( \frac{5280ft}{1mi} \right)^2 \times \left( \frac{12in}{1ft} \right)^3 \times \left( \frac{2.54cm}{.1in} \right)^3 \times \frac{1mL}{1cm^3} \times \frac{20drops}{1mL} = \boxed{2 \times 10^{16} \text{ drops}}$$

$$19. 4 \times 10^4 \text{ dollars} \times \frac{1in}{50 \text{ dollars}} \times \frac{1ft}{12in} \times \frac{1mi}{5280ft} = 1262603$$

$$\boxed{= 1 \times 10^5 \text{ mi}}$$