

KEY

Multiple Unit Conversions

$$\#1. 27.0 \text{ inches} \times \frac{0.0334 \text{ atm}}{1 \text{ inch}} \times \frac{101.3 \text{ kPa}}{1 \text{ atm}} = \boxed{91.3 \text{ kPa}}$$

$$\#2. a) 3.1 \times 10^{13} \text{ m}^3 \times \frac{917 \text{ kg}}{1 \text{ m}^3} \times \frac{334 \text{ kJ}}{1 \text{ kg}} = \boxed{9.5 \times 10^{18} \text{ kJ}}$$

$$b) 9.5 \times 10^{18} \text{ kJ} \times \frac{1 \text{ kg TNT}}{1.51 \times 10^4 \text{ kJ}} = \boxed{6.3 \times 10^{14} \text{ kg TNT}}$$

$$\#3. \$350 \times \frac{1 \text{ kg}}{\$0.0980} \times \frac{1 \text{ t}}{1000 \text{ kg}} = \boxed{3.57 \text{ t}} \text{ or } \boxed{3.6 \text{ t}} \text{ (2 sig fig)}$$

$$\#4. 177 \text{ mL} \times \frac{3.51 \text{ g}}{1 \text{ mL}} \times \frac{1 \text{ carat}}{0.200 \text{ g}} = \boxed{3.11 \times 10^4 \text{ carat}}$$

$$\#5. a) 0.25 \text{ h} \times \frac{120 \text{ km}}{1 \text{ h}} = \boxed{30. \text{ km}}$$

$$b) 12 \text{ min} \times \frac{1 \text{ h}}{60 \text{ min}} \times \frac{120 \text{ km}}{1 \text{ h}} = \boxed{24 \text{ km}}$$

$$\#6. a) 3 \text{ doz} \times \frac{\$8.40}{1 \text{ doz}} = \boxed{\$25.20} \quad b) 5 \text{ doz} \times \frac{\$8.40}{1 \text{ doz}} \times \frac{1 \text{ burger}}{\$1.50} = \boxed{28}$$

$$c) \$13.30 \times \frac{1 \text{ doz}}{\$8.40} = \boxed{1.58 \text{ doz}}$$

$$\#7. 2 \text{ horses} \times \frac{5 \text{ cows}}{3 \text{ horses}} \times \frac{4 \text{ hogs}}{1 \text{ cow}} \times \frac{4 \text{ goats}}{3 \text{ hogs}} \times \frac{9 \text{ chickens}}{1 \text{ goat}} = \boxed{160 \text{ chickens}}$$

$$\#8. 5 \text{ yards} \times \frac{3 \text{ feet}}{1 \text{ yard}} \times \frac{12 \text{ inches}}{1 \text{ foot}} \times \frac{1 \text{ cm}}{0.3937 \text{ inch}} = \boxed{457 \text{ cm}}$$

Don't worry about sig fig