Name:	Date:	Block:	Metrics & Sig Fig HV

1. The greatest distance between Earth and the sun during Earth's revolution is 152, 000, 000 kilometers. What is the distance in megameters?

2. How many milliliters of water will it take to fill a 2.00 L bottle?

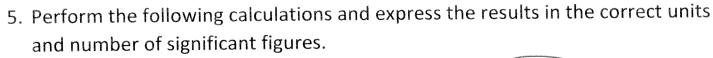
3. A piece of copper wire is 150 cm long. How long is the wire in millimeters?

$$150 \text{ cm} = 1500 \text{ m mg}$$

4. Perform the following calculations, and express the result in the correct units and number of significant figures.

a.
$$\frac{47.0 \text{ m}}{35\text{F}} = \frac{21.36363636}{5} = \frac{21.5}{5}$$

- b. $\frac{140 \text{ cm} \times 35 \text{ cm}}{28F} = \frac{4900 \text{ cm}^2}{28F}$
- c. $5.88 \text{ kg} / 200 \text{ m}^3 = 0.0294 \frac{\text{kg}}{\text{m}^3} = 0.03 \frac{\text{kg}}{\text{m}^3}$
- d. $0.0050 \text{ m}^2 \times 0.042 \text{ m} = 21000 \text{ m}^3$
- e. $\frac{300.0 \, \text{L}}{45 \, \text{F}} = \frac{1.66666675}{35 \, \text{F}} = \frac{1.66666675}{1.675}$
- f. $33.00 \text{ cm}^2 \times 2.70 \text{ cm} = 89.1 \text{ cm}^3$
- g. $\frac{35\,000\,\text{kJ}}{28\text{F}}$ $\frac{14\,0000\,\text{min}}{38\text{F}}$



a.
$$22.0 \text{ m} + 5.28 \text{ m} + 15.5 \text{ m} = 42.78 \text{ m} = 42.8 \text{ m}$$

b. $0.042 \text{ kg} + 1.229 \text{ kg} + 0.502 \text{ kg} = 1.77 \text{ kg}$
c. $170 \text{ cm}^2 + 3.5 \text{ cm}^2 - 28 \text{ cm}^2 = 145.5 \text{ cm}^2 = 146 \text{ cm}^2$
 $0.003 \text{ L} + 0.0048 \text{ L} + 0.100 \text{ L} = 0.1078 \text{ L} = 0.12$
e. $24.50 \text{ dL} + 4.30 \text{ dL} + 10.2 \text{ dL} = 28 \text{ mg} = 2837 \text{ mg}$
f. $3200 \text{ mg} + 325 \text{ mg} - 688 \text{ mg} = 2837 \text{ mg}$

g. 14 000 kg + 8000 kg + 590 kg =
$$22590 \text{ kg}$$

6. What is the volume of a region of space that measures $752 \text{ m x } 319 \text{ m x } 110 \text{ m}$? Give your answer in the correct unit and with the proper number of 257 m

significant figures. $26/387/680 \, \text{m}^3 + 26,000,000 \, \text{m}^3$

error, given that the correct mass is 9.82 g. (show your work)
$$9.82g - 9.67g \times 100 = 9.82g$$

$$9.82g \times 100 = 9.82g$$

$$9.82g \times 100 = 9.82g$$

8. How much energy would be absorbed as heat by 75.37 grams of iron when heated from 295 K to 301K? The specific heat for iron is 0.449 J/g•K (show your work)