Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_ Block: \_\_ **Metrics & Sig Fig HW**

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?
4. Perform the following calculations, and express the result in the correct units and number of significant figures.
   1. 47.0 m / 2.2 s = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. 140 cm x 35 cm = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. 5.88 kg /200 m3= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. 0.00 50 m2 x 0.042 m = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. 300.0 L / 180. s = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. 33.00 cm2 x 2.70 cm = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   7. 35 000 kJ / 0.250 min = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5. Perform the following calculations and express the results in the correct units and number of significant figures.
   1. 22. 0 m + 5.28 m + 15.5 m =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. 0.042 kg + 1.229 kg + 0.502 kg = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. 170 cm2 + 3.5 cm 2 - 28 cm2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. 0.003 L + 0.0048 L + 0.100 L = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. 24.50 dL + 4.30 dL + 10.2 dL = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. 3200 mg + 325 mg – 688 mg = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   7. 14 000 kg + 8000 kg + 590 kg = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What is the volume of a region of space that measures 752 m x 319 m x 110 m? Give your answer in the correct unit and with the proper number of significant figures.
7. A student measures the mass of a sample as 9.67 g. Calculate the percentage error, given that the correct mass is 9.82 g. (show your work)
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)
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11. A student measures the mass of a sample as 9.67 g. Calculate the percentage error, given that the correct mass is 9.82 g. (show your work)
12. 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)