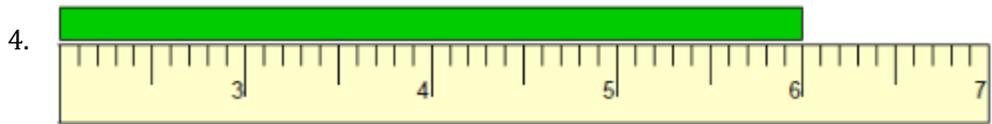
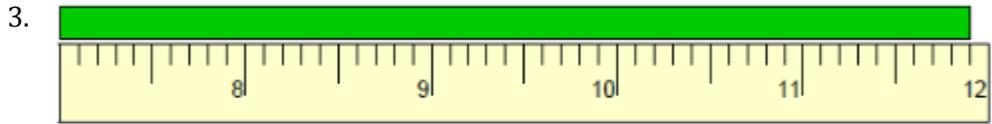
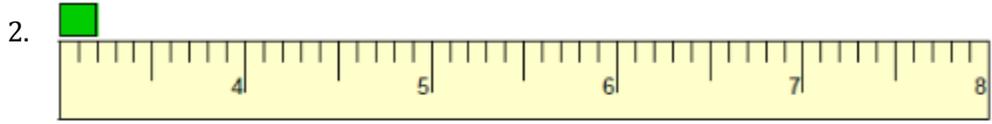
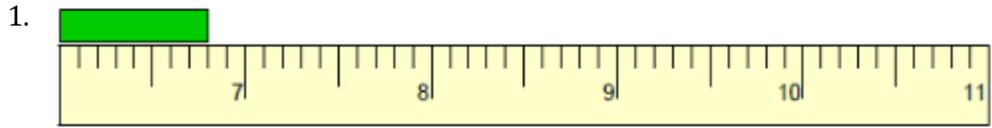
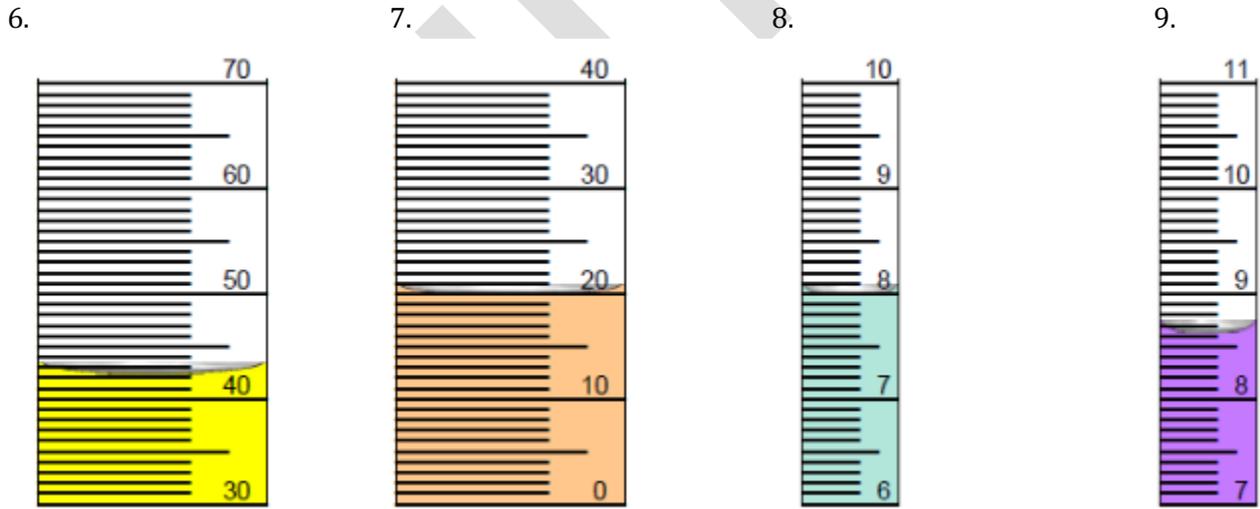


PRACTICE WITH READING MEASURING DEVICES WORKSHEET

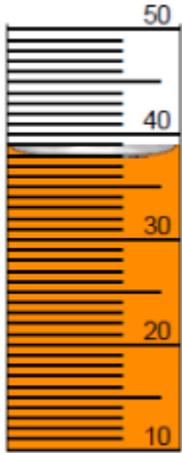
Part 1 - What are the readings on these metric rulers? Be sure to include units with your answers.



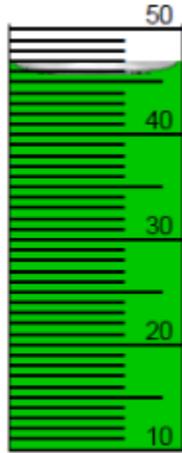
Part 2 - What are the readings on these graduated cylinders? Be sure to include units with your answers.



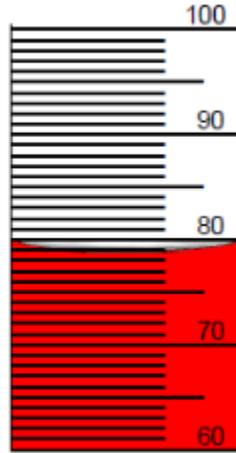
10.



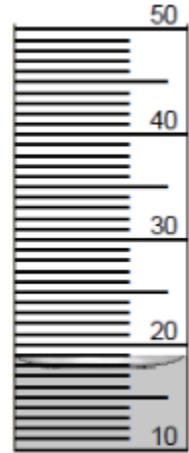
11.



12.

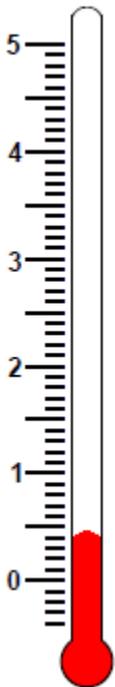


13.

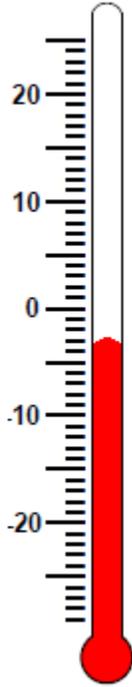


Part 3 - What are the readings on these thermometers? Be sure to include units with your answers.

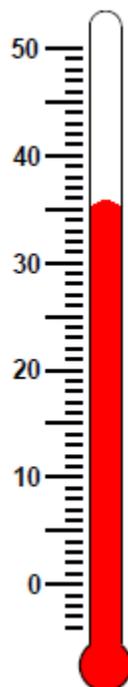
14.



15.



16.

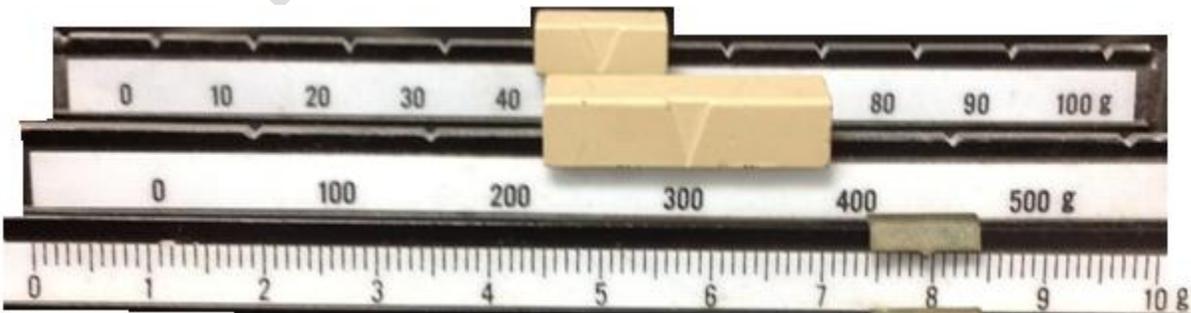


17.

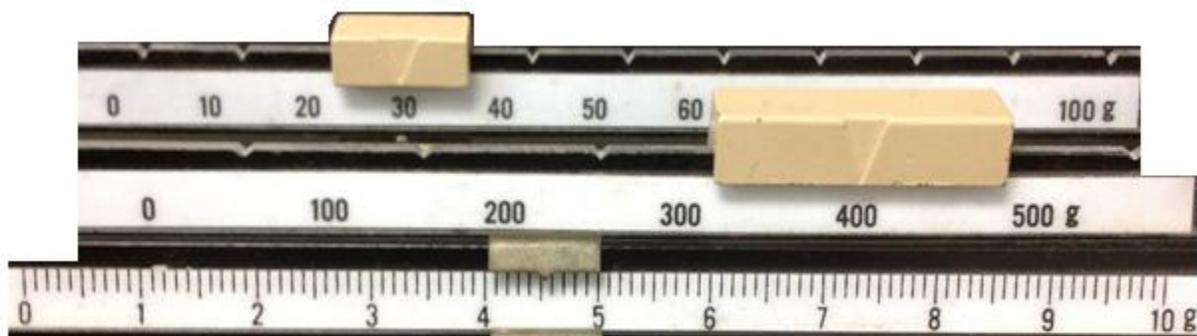


Part 4 - What are the readings on these triple beam balances? Be sure to include units with your answers.

18.



19.



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SIGNIFICANT FIGURES WORKSHEET

PART 1 - Determine the number of significant figures in the following numbers.

- | | | | |
|----------------|----------------|------------------|---------------|
| 1. 0.02 ____ | 2. 0.020 ____ | 3. 501 ____ | 4. 501.0 ____ |
| 5. 5,000 ____ | 6. 5,000. ____ | 7. 6,051.00 ____ | |
| 8. 0.0005 ____ | 9. 0.1020 ____ | 10. 10,001 ____ | |

PART 2 - Rewrite/round each of the following numbers so that it has 3 significant figures.

- | | |
|------------------------------|---------------------------------|
| 1. 0.03006 _____ | 2. 0.00041193 _____ |
| 3. 10,800,000. _____ | 4. 0.90149 _____ |
| 5. 2.195×10^2 _____ | 6. 2.998×10^{21} _____ |
| 7. 0.007997 _____ | 8. 8048 _____ |
| 9. 90,185 _____ | 10. 699.5 _____ |

ROUNDING & SIGNIFICANT FIGURES WORKSHEET

Perform the following operations expressing the answer with the correct number of significant figures.

- $1.35 \text{ m} \times 2.467 \text{ m} =$
- $1,035 \text{ m}^2 =$
42 m
- $0.021 \text{ cm} \times 3.2 \text{ cm} \times 100.1 \text{ cm} =$
- $150 \text{ km}^3 =$
4.0 km²
- $1.252 \text{ mm} \times 0.115 \text{ mm} \times 0.012 \text{ mm} =$
- $1.278 \times 10^8 \text{ m}^2 =$
 $1.4267 \times 10^6 \text{ m}$
- $55.46 \text{ km} \times 28.9 \text{ km} =$
- 12.01 m =
($35.2 \text{ s} \times 6.00 \text{ s}$)
- $0.15 \text{ cm} \times 1.15 \text{ cm} \times 2.051 \text{ cm} =$

10. $\frac{505 \text{ g}}{450.25 \text{ mL}} =$

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DENSITY PROBLEMS WORKSHEET (round your answers to the correct # of SFs)

- Determine the density of a rectangular piece of concrete that measures 3.7 cm by 2.1 cm by 5.8 cm and has a mass of 43.8 grams.
- Determine the density of a piece of granite that measures 5.02 cm by 1.35 cm by 2.78 cm and has a mass of 30.64 grams.
- Determine the density of a brick in which 49.92 grams occupies 4.01 cm³.
- Gold has a density of 19.32 g/cm³. Find the mass of 6.39 cm³ of gold.
- Determine the volume of 6.37 grams of magnesium if its density is 1.29 g/cm³.
- Determine the volume of 15.64 grams of iron if its density is 2.27 g/cm³.
- A graduated cylinder contains 30.0 mL of water. An object is placed in the cylinder and the water level moves to 46.7 mL. Find the density if the mass of the object is 121.3 grams.
- A ball has a mass of 6.03 kilograms and a volume of 10.57 cm³. Find the density of the ball.
- A piece of wood has a mass of 5.75 grams and a volume of 0.95 cm³. Find its density.

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UNIT CONVERSIONS WORKSHEET

- | | |
|--|---|
| 1. 360 g to μg | 2. 18.05 m to Mm |
| 3. 0.00238 cg to g | 4. 3.80 dL to L |
| 5. 13.52 cm ³ to mL | 6. 1.428×10^7 m to km |
| 7. 0.014 g to cg | 8. 30.2 μL to L |
| 9. 2.85×10^4 L to dm ³ | 10. 4.06×10^{12} nm to m |
| 11. 41.5 mL to L | 12. 1.05 dm ³ to cm ³ |
| 13. 281 cm ³ to L | 14. 35.85 Mm to m |
| 15. 4.305 L to dL | 16. 4.32 L to cm ³ |
| 17. 61.2 mL to dm ³ | 18. 6.643×10^{-5} km to m |
| 19. 1.832 L to mL | 20. 6.58 m to nm |

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UNIT 1 REVIEW WORKSHEET

Part 1 - Unit Conversions

- | | | |
|-------------------|-----------------|-----------------|
| 1. 0.9785 kg to g | 2. 2830 mm to m | 3. 19.3 L to cL |
|-------------------|-----------------|-----------------|

4. 3.4 g to Mg 5. $6.75 \times 10^5 \text{ cm}^3$ to dm^3

Part 2 - Tell the number of significant figures in each of the following measurements.

6. 48 cm 7. 306.2 g 8. 0.329 m
9. 83.952 K 10. 3700 mm 11. 400. cm^3
12. 71.60 g 13. 82.000 g

Part 3 - Perform each of the following calculations, expressing the answer to the correct number of significant figures.

14. $3.482 \text{ cm} \times 8.51 \text{ cm} \times 16.324 \text{ cm} =$

15. $8.3 \text{ m} \times 4.0 \text{ m} \times 0.9823 \text{ m} =$

16. $\frac{4.93 \text{ mm}^2}{18.71 \text{ mm}} =$

17. $106.5 \text{ g} \div 32 \text{ mL} =$

Part 4 - Percent Error

18. Experimental value = 1.24 g, Accepted value = 1.30 g
19. Experimental value = 22.2 L, Accepted value = 22.4 L
20. A person attempting to lose weight on a diet weighed 175 lb on a bathroom scale at home. An hour later at the doctor's office, on a more accurate scale, this person's weight is recorded as 178 lb. Assuming that there was no real weight change in that hour, what is the percent error between these readings?

Part 5 – Density

21. What is the mass of a sample of material that has a volume of 55.1 cm^3 and a density of 6.72 g/cm^3 ?
22. A sample of a substance that has a density of 0.824 g/mL has a mass of 0.451 g. Calculate the volume of the sample.

Duncan