Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ UGA myID\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Scientific Notation, Significant Figures, and Unit Conversions**

1. Convert 0.0004571 miles into scientific notation.
   1. 4.571 x 105
   2. **4.571 x 10-4**
   3. 4.571 x 10-3
   4. 4.571 x 10-5
   5. 4.57 x 104
2. Convert 25,657 feet into scientific notation.
   1. 2.57 x 104
   2. 2.5657 x 10-4
   3. **2.5657 x 104**
   4. 2.57 x 105
   5. 2.5657 x 10-5
3. Convert the number 6.43 x 10-4 to decimal format.
   1. **0.000643**
   2. 0.00643
   3. 0.0643
   4. 0.643
   5. 64300
4. Convert the number 1.55 x 102 to decimal format.
   1. 15.5
   2. **155**
   3. 0.155
   4. 0.0155
   5. 1550
5. Which statement(s) is/are true about exact numbers? Select any that apply.
   1. Exact numbers control the number of significant figures reported for a calculation.
   2. **Exact numbers contain an unlimited number of significant figures.**
   3. **Exact numbers refer to items that can be counted.**
   4. Exact numbers can be measurements if the measuring instrument is sufficiently precise.

Label each number as an exact number (a) or measurement (b).

1. 55 oranges **a**
2. 1.67 liters **b**
3. 22 feet **b**
4. 10 pencils **a**
5. 20. **b**

How many significant figures are reported for each beaker? Your multiple-choice options are:

* 1. 1
  2. 2
  3. 3
  4. A picture containing indoor, glass, vessel, bottle

     Description automatically generated4

1. **c** 12. **b** 13. **d**
2. Which number does **not** contain four significant figures?
   1. 1.060
   2. 1.600
   3. **0.006**
   4. 1.006
   5. 1000.
3. How many significant figures are in the measurement 8.7300 grams?
   1. **5**
   2. 4
   3. 6
   4. 3
   5. 1
4. How many significant figures are in the measurement 0.080320?
   1. 3
   2. 4
   3. **5**
   4. 6
   5. 7
5. How many significant figures are in the measurement 3.10 x 105 mg?
   1. 2
   2. 5
   3. 4
   4. **3**
   5. 8
6. What is the answer to the calculation 5.5 m(4.22 m) to the correct number of significant figures?
   1. 23.21 m2
   2. **23 m2**
   3. 23.2 m2
   4. 23.0 m2
   5. 23.210 m2
7. How many significant figures are in the answer to the calculation 214.88 + 9.1?
   1. 3
   2. 5
   3. 2
   4. **4**
   5. 6
8. The answer for the calculation (3.46 – 3.43)/2.3 to the correct number of significant figures is:
   1. 1.30 x 10-2
   2. 1.3 x 10-2
   3. 1.31 x 10-2
   4. 1.0 x 10-2
   5. **1 x 10-2**
9. Which conversion factor is correct?
   1. 1 km = 1 x 10-3 m
   2. 1 g = 1 x 103 cg
   3. 1 cm = 1 x 102 m
   4. 1 mg = 1 x 10-2 g
   5. **1 nm = 1 x 10-9 m**
10. Convert 3.32 x 10-5 m into mm
    1. **3.32 x 10-2 mm**
    2. 3.32 x 10-8 mm
    3. 3.32 x 101 mm
    4. 3.32 x 10-11 mm
    5. 3.32 x 104 mm
11. Convert 24,595 µm to km and report the answer in scientific notation.
    1. 2.4595 x 10-2 km
    2. **2.4595 x 10-5 km**
    3. 2.4595 x 10-8 km
    4. 2.4595 x 10-9 km
    5. 2.4595 x 1013 km
12. Convert 3,465 cm to feet. 1 in = 2.54 cm, 1 ft = 12 in
    1. **113.7 ft**
    2. 1.056 x 105 ft
    3. 1.637 x 104 ft
    4. 733.4 ft
13. A gasoline can holds 5.0 gallons of gas. How many mL is this? 1 gal = 3.78 L
    1. 19 mL
    2. 1.3 mL
    3. **1.9 x 104 mL**
    4. 1.3 x 103 mL
    5. 1.9 x 10-2 mL
14. A cyclist rides at an average speed of 18.0 miles per hour. If she wants to bike 212 km, how many hours must she ride? 1 in = 2.54 cm, 1 ft = 12 in, 1 mile = 5,280 ft.
    1. 11.7 hours
    2. **7.32 hours**
    3. 19.0 hours
    4. 7.32 x 10-10 hours
    5. 2.37 x 103 hours
15. A standard-sized living room is 14 ft wide by 9.0 ft high. What is the living room’s area in square meters? 1 ft = 12 inches, 1 inch = 2.54 cm.
    1. **12 m2**
    2. 38 m2
    3. 1.3 x 102 m2
    4. 1.2 x 103 m2
    5. 3.9 x 103 m2