

CHE - Extra Practice - Chemistry Calculations

Name: _____

Date: _____

1. Write each of the following numbers in Scientific Notation.

(a) 0.000 000 378 5

1(a) _____

(b) 2,305,000

1(b) _____

(c) 46.50

1(c) _____

(d) 0.00250

1(d) _____

(e) 6.50

1(e) _____

2. Write each of the following numbers using Floating Point notation.

(a) 3.65×10^4

2(a) _____

(b) 6.5×10^{-3}

2(b) _____

(c) 5.4050×10^{-2}

2(c) _____

(d) 6.20×10^3

2(d) _____

(e) 5.5×10^{-6}

2(e) _____

3. How many Significant Figures are in each of the following numbers:

(a) 500.6

3(a) _____

(b) 0.002508

3(b) _____

(c) 2500

3(c) _____

(d) 360.0

3(d) _____

(e) 0.0650

3(e) _____

(f) 200.050

3(f) _____

(g) 0.0050020

3(g) _____

(h) 365.25

3(h) _____

(i) 0.008950

3(i) _____

(j) 13,000

3(j) _____

4. Round each of the following numbers to 3 Significant Figures.

(a) 18.56

4(a) _____

(b) 0.000 0581

4(b) _____

(c) 2000.65

4(c) _____

(d) 125,458

4(d) _____

CHE - Extra Practice - Chemistry Calculations

(e) 0.025839 4(e) _____

(f) 5.60×10^{-2} 4(f) _____

(g) 6.65895×10^{-12} 4(g) _____

(h) 3.50×10^3 4(h) _____

(i) 6.996×10^{-6} 4(i) _____

(j) 5.949×10^5 4(j) _____

5. Solve the following problems. Show all work. Express your answers to the proper number of Significant Figures. Use Scientific Notation where appropriate.

(a) $85.565 + 1.255 + 42.3$ 5(a) _____

(b) $(2.250 \times 10^{-3})(2.8 \times 10^{-2})$ 5(b) _____

(c) $\frac{(500.)(612.2)}{56}$ 5(c) _____

(d) $\frac{5700}{19.1}$ 5(d) _____

(e) $(0.00560)(250.5)$ 5(e) _____

(f) $12,000 + 2,500 + 350$ 5(f) _____

(g) $14.25 + 0.55 + 15$ 5(g) _____

(h) $\frac{1200.0}{500.0}(0.0025)$ 5(h) _____

(i) $(8.55 \times 10^{-10})(3.50 \times 10^{-8})$ 5(i) _____

(j) $\frac{2.5 \times 10^5}{6.0 \times 10^{-3}}$ 5(j) _____

CHE - Extra Practice - Chemistry Calculations

6. Perform each of the following conversions. ALL answers should contain the proper number of Significant Figures and the proper Units. Show work to receive full credit.

(a) 25.0 lbs to mg 6(a) _____

(b) 0.050 mL to pints 6(b) _____

(c) 15 m to nm 6(c) _____

(d) 15,000 L to kL 6(d) _____

(e) 2.85×10^{-5} nm to pm 6(e) _____

(f) 3.50×10^3 Gm to miles 6(f) _____

(g) 5.86×10^{12} μ L to gallons 6(g) _____

(h) 500 drams to kg 6(h) _____

(i) 80. rods to miles 6(i) _____

(j) 2.5×10^{40} amu to lbs 6(j) _____

CHE - Extra Practice - Chemistry Calculations

7. Perform each of the following conversions. ALL answers should contain the proper number of Significant Figures and the proper Units. Show work to receive full credit.

(a) 250 cm^2 to ft^2 7(a) _____

(b) 650.0 in/min to cm/hr 7(b) _____

(c) $2.85 \times 10^4 \text{ cL}^2$ to kL^2 7(c) _____

(d) 0.0050 gal/min to fl oz/hr 7(d) _____

(e) 53.0 tons/gal to g/mL 7(e) _____

8. Bob drives from Rangely CO to Mankato MN (a distance of 1600 miles at 75 km/hour . How long in minutes does it take Bob to reach Mankato?

8. _____

9. A wheelbarrow can haul 25 kg of dirt. If the hole you are filling requires 1 ton of dirt to fill, how many wheelbarrow loads do you need to haul?

9. _____

10. 125 guests are expected to attend a conference each day. Each person is assumed to drink 450 mL of coffee each day. If the conference lasts 3 days, how many liters of coffee should be prepared?

10. _____

CHE - Extra Practice - Chemistry Calculations

11. An orchard had 500.0 trees, each tree produces 250 apples. If each apple weighs 9500 mg, how many pounds of apples does the orchard produce? Round your answer to the nearest pound.

11. _____

12. The hospital is giving flu shots to 1600 people. If each shot contains 2.00 mL of vaccine, how many liters should the clinic order?

12. _____

13. Individual Army rations weigh 0.75 lbs each. Army rations are packaged 144 rations per crate. How many tons does 100. crates of rations weigh?

13. _____

14. Your basement is flooding! Your basement is filling up with 100. gallons of water every minute. You rush to the store, and find that the only pump they have pumps 10.0 L/sec. Will the pump SAVE your basement or are you DOOMED!

14. _____

15. A Velociraptor can run at 15 km/hr. If you start out 100.0 ft away from the Velociraptor, how long will you live for in seconds (assuming you don't run away)?

15. _____

CHE - Extra Practice - Chemistry Calculations

16. A concrete block is 9.0 inches high, if you are building a wall 6.0 ft tall, how many rows of concrete blocks are needed?

16. _____

17. Bob changes the oil in his car every month. Each oil change requires 5.25 qts of oil. How many gallons of oil does Bob use each year? Round your answer to the nearest gallon.

17. _____

18. A 6 in by 6 in tile weighs 8.25 oz. Find the weight in pounds of a box containing 1 gross of tiles (1 gross = 144 tiles)?

18. _____

19. You are building a square corral for your new horse. If the corral is 50. feet on a side (there are four sides in a square) and each 10. foot panel costs \$65, how much will your new corral cost?

19. _____

20. The cafeteria serves milk at every meal. Assuming 250 people will each drink 1.5 cup of milk per meal, and every one eats 3.0 meals a day how many gallons of milk are consumed each day?

20. _____