**Math Placement Test**

**A. Whole Numbers and Integers**

1. Round the following to the nearest hundreds place:

**a.**  **b.**  **c.** 

1. Perform the indicated operations:

**a.** 

**b.** 

**c.** 

**d.** 

**e.** 

**f.** 

**g.** 

1. Evaluate each of the following:
   1. 
   2. 
2. Which of the following numbers are prime numbers?

****

1. A chemist has  mL of alcohol. How many  mL beakers can be filled and how much will be left over?
2. A backyard measures 20ft by 35ft. What is the perimeter and area of the yard?

**B. Fractions**

**7.** The number  falls between which two whole numbers on the number line?

**8.** Write the following as a mixed numeral: 

**9.**  Write each of the following in simplest form:

**a.  b.  c.  d. **

**10.** Find the lowest common denominator for each of the following:

**a.  b. **

**11.** Perform the indicated operation: (Express the answer in simplest form.)

**a. **

**b. **

**c. **

**d. **

**e. **

**f. **

**g. **

**h. **

**i. **

**j. **

1. Solve for ** : **
2. **13.** Solve for ****
3. A pair of crutches needs adjustment. One crutch is 43 inches and the other is  inches. Find how much the short crutch should be lengthened to make both crutches the same length.

**15.** Turkey contains  servings per pound. How many pounds are needed for  servings?

**C. Decimals**

**16.** Write as a fraction and simplify if possible: 0.278

1. What is the place value of  in each of the following?

**a.  b.  c.  d. **

1. Round each of the following to the hundredth’s place:

**a.  b.  c. **

1. Perform the indicated operations:

**a. **

**b. **

**c. **

**d. **

**e. **

**f. **

**g. **

1. Change  to a decimal:
2. Change  to a decimal and round to the hundredth’s place:
3. Write the following in numerical form:
   1. ten and twenty-three thousandths
   2. one and seventeen hundredths
4. Identify which number is larger:

**a.  or  b.  or **

**24.** Solve for 

**25.** Solve for 

**26.** Find the average of the following test scores: 86, 78, 91, 87

**D. Ratio and Proportion**

**27.** Express the following ratios in simplest form:

**a.  b.  c. **

**28.** What is the ratio of  peaches to plums?

**29.** Express the following as rates in lowest terms:

1.  miles driven for  gallons of fuel. What is the rate in miles per gallon?
2. A jet flew  miles in hours? What is its speed in miles per hour?
3. The heart of a human, at rest, will beat an average of  beats in minutes. What is the rate in beats per minute?
4. A oz package of pasta costs . Find the unit cost in cents per ounce.

**30.** Solve the following proportions:

**a. **

**b. **

**c. **

**d. **

**e. **

**f. **

**31.** Create the proportions, then solve:

1. A survey reveals that 2 out of 3 people prefer Coke to Pepsi. In a college class of 36 students, find how many students are likely to prefer Pepsi.
2. A Cubs baseball player gets 3 hits every 8 times at bat. If he got 12 hits, find how many times he batted.
3. In the Seattle Space Needle, the elevators whisk you to the revolving restaurant at a speed of 800 feet in 60 seconds. If the revolving restaurant is 500 feet up, how long will it take you to reach the restaurant by elevator?

**E. Percents**

**32**. Writeeach percent (a) as a decimal and (b) as a fraction in simplest form:

**a. % a. \_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_**

**b. % a. \_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_**

**c. % a. \_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_**

**33.** Change each of the following to a percent:

**a.  b.  c.  d.  e.  f. **

**34.** Solve:

**a.** 12% of what number is 4.92? **b.** 7.5% of 20 is what?

**c.** 14 is what percent of 50? **d.** What percent of 64 is 56?

**35.** Find the simple interest on  invested at % for  years.

**36.** How much sales tax is charged on an item costing  if the sales tax is? What is the total cost of the item?

**37.** A salesman’s commission rate for selling a new car is 14%. How much commission will he make if he sells a car for 

**38.** A new coat is on sale for off the retail price. The retail price is  What is the amount of discount, and what is the sale price?

**ANSWERS**

**1. a.  b.  c. **

**2. a.  b.  c.  d. **

**e.  f.  g. **

**3. a.  b.  4.  5.**  beakers can be filled;  mL left over

1. **Perimeter:  Area: 7.  8**.  **9. a.** 1 **b.** 0

**c.**  **d.**  **10. a.** 24 **b.** 12

**11. a.  b.  c.  d.  e. **

**f.  g.  h.  i.  j. **

**12.  13.  14.  15.** 24 lbs **16.** 

**17. a.** Hundredths **b.** Ten-thousandths **c.** Tenths **d.** Ones

**18. a.** 0.04 **b.** 6.19 **c.** 0.46

**19. a.**  **b.** 14.105 **c.** 5.66 **d.** 17.58

**e.  f.** 38.2305 **g. **

**20.** 0.375 **21.** 0.73 **22. a.** 10.023 **b.** 1.17 **23. a.** 0.06 **b.** 2.04

**24.  25. ** **26.** 85.5 **27. a.  b.  c.  28. a.** 3 to 8 or 

**29. a.** 22miles per gallon **b.** 560mph **c.** 70beats per minute **d.** 6.2cents per ounce

**30. a.** 24 **b.** 0.7 **c.** 30 **d.** 1.6 **e. ** **f.** 7