

## MAT 0012 Basic Algebra I

### KEY CONCEPT REVIEW

#### CHAPTER 5, SECTIONS 5.4 – 5.6

**TO RECEIVE CREDIT, DO ALL PROBLEMS, MAKE CORRECTIONS, AND SHOW ALL WORK.**

- 1) How do you divide 15.12 by 45? Explain.
- 2) How do you divide 42 by 0.06? Explain.
- 3) **Decide if the following statement is true or false.**

$$0.06 \overline{)2.1} = \frac{2.1}{0.06} = \frac{210}{6} = 6 \overline{)210} \frac{35}{}$$

**Find each quotient.**

- 4)  $16 \overline{)12.848}$
- 5)  $-3.312 \div (-0.92)$
- 6)  $\frac{3.213}{0.051}$
- 7) If a quotient is rounded to the nearest thousandth, to what decimal place should the division be carried out?

- 8) Divide 0.0453 by 0.98 and round the quotient to the nearest thousandth.
- 9) Divide 1068.18 by 0.026, and round the quotient to the nearest hundredth.
  - A) 41,084.38
  - B) 4108.38
  - C) 41,083.85
  - D) 4108.43

**Fill in the blanks with a fraction and a decimal.**

- 10) Dividing by 1000 is the same as multiplying by \_\_\_\_\_ or \_\_\_\_\_.

**Find each quotient.**

- 11)  $\frac{-631.983}{1000}$
- 12)  $\frac{-835.1541}{-0.01}$

**Find the mistake in each division calculation.**

- 13) Divide:  $1.118 \div 2.6$

$$\begin{array}{r} 4.3 \\ 2.6 \overline{)1.1.18} \\ \underline{-104} \phantom{0} \\ 78 \\ \underline{-78} \\ 0 \end{array}$$

- 14) Divide:  $625 \div 10,000$

$$\begin{array}{r} 16 \\ 625 \overline{)10,000} \\ \underline{-625} \phantom{00} \\ 3750 \\ \underline{-3750} \\ 0 \end{array}$$

- 15) Divide:  $0.8034 \div 3.9$

$$\begin{array}{r} 0.26 \\ 3.9 \overline{)0.8.034} \\ \underline{-78} \phantom{0} \\ 234 \\ \underline{-234} \\ 0 \end{array}$$

**Solve the problem.**

- 16) If a student works 31.5 hours in one week and earns \$246.50 before taxes, how much did the student earn per hour? (Round the answer to the nearest cent.)
- 17) How do you write the fraction  $\frac{7}{40}$  as a decimal? Explain.

**Write each fraction as a decimal.**

- 18)  $-\frac{9}{25}$
- 19)  $\frac{3}{8}$
- 20) What does the bar over the digit 6 mean in the decimal  $0.1\bar{6}$  ?

**Write each fraction as a decimal and use repeating decimal notation.**

- 21)  $\frac{2}{11}$
- 22)  $\frac{14}{15}$

**Write the fraction as a decimal and round to the given place value.**

- 23)  $\frac{5}{12}$ , round to the nearest thousandth
- A) 0.417                      B) 0.416  
 C) 0.42                        D) 0.41
- 24) Which of these numbers is the largest?
- A)  $0.\overline{36}$     B)  $0.3\overline{6}$             C) 0.36

- 25) Which of these numbers is the smallest?

- A) -0.45    B)  $-\overline{0.45}$     C)  $-\overline{0.4\overline{5}}$

- 26) Insert  $<$ ,  $>$ , or  $=$  between the numbers for form a true statement.

0.832                       $\frac{5}{6}$

**Simplify each expression.**

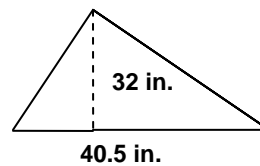
27)  $\frac{(1.4)^2}{1000}$

- A) 0.0196                      B) 0.00196  
 C) 0.000196                  D) 0.196

28)  $(-1.6)^2 + 3.9 - 2.13$

**Find the area of the triangle.**

- 29)



**Solve each equation.**

- 30)  $-8.5 = 11.0 - x$
- 31)  $-1.6x + 2.2 = -0.8x - 2.44$
- A) -5.22                      B) 0.172  
 C) -5.8                        D) 5.8
- 32)  $6(x - 1.7) = 9.3$