

MAT 0012 Basic Algebra I

KEY CONCEPT REVIEW

CHAPTER 5, SECTIONS 5.1 – 5.3

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

- 1) In the number 432,051.0134, zero occupies which two place values?
- 2) What is the difference between seven thousand and seven thousandths? Write each number in standard notation.
- 3) **Decide if the following statements are true or false.**
 - a) The place value to the immediate right of the decimal point is called the oneths place.
 - b) Five tenths is the same as fifty hundredths.
 - c) The decimal 0.10900 may also be written as 0.1090 and 0.109.
- 4) **Write each decimal in words.**
 - a) 154.08
 - b) -518.0091
- 5) **Write each decimal in standard notation.**
 - a) Fourteen and forty-seven thousandths
 - b) Eight and five hundredths
- 6) During a recent tropical storm, a town received sixteen and three tenths inches of rain over a 24-hour period. Which decimal represents the amount of rain that fell?

A) 0.163	B) 16.03
C) 16.3	D) 16.003

Select the correct phrase that completes the following statement.

- 7) When 0.043 is written as a fraction, the number of zeros in the denominator is _____ the number of decimal places in 0.043.

A) one more than
B) the same as
C) one less than
- 8) **Write each decimal as a fraction or mixed number in simplest form.**
 - a) 0.125
 - b) 7.032
- 9) **Write each fraction as a decimal.**

a) $-\frac{18}{1000}$	b) $\frac{163}{10}$
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- 10) In a survey of 1000 people, 725 stated they owned a cell phone.
 - a) What fraction of those surveyed did not own a cell phone?
 - b) Write this fraction as a decimal.
- 11) **Insert <, >, or = between the numbers to form a true statement.**

a) 782.8908	782.8809
b) -0.49201	-0.492
- 12) If a sales tax calculation is \$1.5097, how much tax must be paid?

13) Round each decimal to the given place value.

- a) 2.076, nearest hundredth
- b) 79.5394, nearest thousandth

14) Round each amount to the nearest cent or dollar as indicated.

- a) \$0.1152, nearest cent
- b) \$34.45, nearest dollar

15) Correct the mistake in the calculation shown below.

$$\begin{array}{r} 13.07 \\ 12 \\ + 9.205 \\ \hline 10.524 \end{array}$$

Add or subtract as indicated.

- 16) $248.1 + 0.29 + 33.8 + 18.6$
- 17) $0.34 + (-4.318)$
 - A) -4.658
 - B) 3.978
 - C) -4.558
 - D) -3.978
- 18) $2000 - 97.627$
- 19) $5.245 - 10.678$
- 20) $-4.2 - (-0.65)$
 - A) -4.85
 - B) 4.85
 - C) -3.55
 - D) 3.55
- 21) $-2.03 + 4.71 - 5.32 + (-1.1) - 2.5$
 - A) -6.2
 - B) 0.02
 - C) -6.24
 - D) -4.04

Combine like terms.

- 22) $15.6x + 14.5 - 6.7x - 23.3$
- 23) $8.3 - 10.5x - 12.8x + 13.2$
 - A) $-24.3x + 21.5$
 - B) $-1.8x$
 - C) $-23.3x + 21.5$
 - D) $-23.3x - 4.9$
- 24) Find the value of the expression $y - x + z$ when $x = 6.2$, $y = 8$, and $z = 0.68$.
 - A) 1.12
 - B) 2.48
 - C) 2.58
 - D) -1.12
- 25) How many decimal places are in the product $(13.96)(0.0024)$?
- 26) How many decimal places are in the product $(0.07)^2$?
- 27) Give an example of two decimals whose product has five decimal places.

Find each product.

- 28) $0.391 \cdot 7.5$
- 29) $84.3601(-0.001)$
- 30) $-3.757(10,000)$
- 31) $(11.36)(0.0075)$
 - A) 0.0952
 - B) 0.0752
 - C) 0.1852
 - D) 0.0852

Solve the problem.

- 32) If a telephone company charges \$1.16 for the first minute and \$0.85 for each additional minute, how much would a 7-minute phone call cost?