

Rewrite the following in its equivalent decimal form or expanded form as appropriate.

- 1) 720.92

Rewrite as a numeral.

- 2) Twenty-nine hundredths

Write the terminating decimal as a fraction.

- 3) 0.127

Rewrite as a terminating decimal.

- 4) $\frac{12}{25}$

Rewrite the number or expression as requested.

- 5) $6.11 \cdot 10^{-4}$ (Rewrite as a standard numeral.)
6) 76,000,000,000 (Rewrite in scientific notation.)

Order the decimals from least to greatest.

- 7) 3.09, 3.9, 3.099, 3.999

Solve the problem.

- 8) It took three assembly-line workers 7.61 seconds, 5.206 seconds, and 5.1 seconds to assemble a product. How many seconds in all did they work?
9) Ray's gross pay is \$321.56 a week. \$46 is withheld for federal income tax, \$24.15 for FICA tax, and \$11.25 for other deductions. Find his net pay.
10) A grocer sold 46 bags of potatoes for \$1.56 each. What was the total amount of the sale?

Estimate an answer to the problem.

- 11) A 22-ounce can of coffee is 6.3 inches (.525 ft) tall. How many 22-ounce cans of coffee stacked one on top of another would it take to reach the top of a building that is 1374 feet tall? Round to the nearest one.

Write the fraction in decimal notation.

- 12) $\frac{14}{15}$

Change the repeating decimal to a fraction.

- 13) $0.\overline{697}$

Order the decimals from least to greatest.

- 14) $0.\overline{2}$, $0.2\overline{62}$, $0.\overline{26}$, $0.2\overline{6}$

- 15) Use your calculator to find the decimal for the fraction $\frac{1}{17}$.

Provide an appropriate response.

- 16) Explain how you would convert $\frac{3}{8}$ to decimal notation.

Rewrite the following as indicated.

- 17) $\frac{47}{50}$ (Write as a percent.)

Solve the problem.

- 18) The Liberty Mutual Bank pays $3\frac{4}{5}\%$ interest per year on certificate accounts. What is the annual income on a certificate account of \$78,600? **Round to the nearest dollar.**
- 19) Alex has saved \$560 at the bank. He wants to accumulate \$1750 for a trip to soccer camp. What percent of his goal has been reached?
- 20) Last year, Maria earned \$334 per week. This year, her salary increased to \$361 per week. What is the percent of increase?
- 21) By switching service providers, a family's telephone bill decreased from about \$50 a month to about \$47. What was the percent of decrease?
- 22) A garden has vegetables planted in a 33-ft by 18-ft area. The vegetables are surrounded by a 2-ft border of flowers. By what percent is the area for planting vegetables increased if the 2-ft border of flowers is removed?
- 23) Jack is currently driving into a headwind (17% decrease). If his normal mileage is 22 mpg, what will his car's mileage be in the headwind? Round your answer to the nearest tenth.

Provide an appropriate response.

- 24) Give five examples of the use of percent in sports or games.
- 25) Jessica wanted to solve the following problem: The price of an item increased by 15%. The amount of the increase was \$86. What was the price of the item before the increase? She wrote the following equation: $15\% \cdot 86 = x$. Do you think this equation will give her the correct answer? If not, what is the correct equation to use? Explain your thinking.
- 26) Juan and Pete are on the same salary. Juan receives a 10% raise followed by an 8% raise a year later. Pete receives an 8% raise followed by a 10% raise a year later. After the two salary raises, whose salary is higher? Explain your answer.

Find the simple interest and future value of the deposit (loan). Round answer to the nearest cent.

- 27) \$53,010 at 6.9% for 20 months

Find the compound interest earned by the deposit. Round to the nearest cent.

- 28) \$1600 at 4% compounded quarterly for 5 years

Decide if the number is rational or irrational.

- 29) $\sqrt{25}$

Simplify the radical.

30) $\sqrt[3]{250}$

31) $\sqrt{48}$

Find the square root, rounded to hundredths if necessary.

32) $\sqrt{7.45}$

Use the squeezing method to determine the following square root to the nearest hundredths.

33) $\sqrt{8}$

34) Give an example of an irrational number.

35) Explain how to determine if a fraction will terminate or repeat

36) Find the following product and put your answer in scientific notation.

$$(3.45 \times 10^6)(4.5 \times 10^{-3})$$

37) Find the decimal for the fraction $\frac{3}{19}$.

38) Write the following as a decimal:

$$2 \cdot 10^2 + 3 \cdot 10^{-3}$$

39) Round each of the following decimals as specified:

- a. 459.3456 to the nearest thousandths.
- b. 459.3456 to the nearest hundred
- c. 459.3456 to the nearest hundredths.

40) Estimate the sum or difference in Each of the following by using (i) rounding (ii) front-end estimation. Then perform the computation to see how close your estimates are to the actual answer.

a. 56.89	b. 89.47
24.29	- 22.19
16.18	
+ 19.75	

41) Find three decimals between the following decimals.

4.6 and 4.66

42) answer each of the following:

- a. What is 8% of 150?
- b. 12 is what percent of 36?
- c. 16 is 40% of what number?
- d. 14 is what percent of 56?

43) The cost of a hamburger is \$1.50 and the price continues to rise at a rate of 10% a year for the next 8 years. What will the price of a hamburger be at the end of 8 years?

- 44) The number of trees in a rain forest decreases each month by 0.4%. If the forest has approximately $4.5 \cdot 10^{10}$ trees, how many trees will be left after 20 years?
- 45) Simplify each of the following:
- a. $27^{\frac{1}{3}}$ b. $-32^{\frac{1}{5}}$ c. $125^{\frac{4}{3}}$ d. $8^{-\frac{1}{3}}$
- 46) Identify each of the following numbers as N natural, I integers, Q rational, S irrational, R real, use every answer that applies.
- a. 8.2 b. $\sqrt{81}$ c. $\sqrt{22}$ d. $4\frac{1}{9}$ e. -5
- 47) The above are just a sampling of the problems that could be on exam 1. Make sure that you prepare for the first exam by doing your CHAPTER REVIEW pages 346 and 347, looking over the activities from chapter 6, going over your homework problems and all notes given in class.
- 48) Use the squeezing method to find a rational approximation to the irrational number, correct to the nearest hundredth.

$$\sqrt{6}$$

Answer Key

Testname: PRACTICE EX1.TST

- 1) Answer: $7 \cdot 10^2 + 2 \cdot 10^1 + 0 \cdot 10^0 + 9 \cdot 10^{-1} + 2 \cdot 10^{-2}$
- 2) Answer: 0.29
- 3) Answer: $\frac{127}{1000}$
- 4) Answer: 0.48
- 5) Answer: 0.000611
- 6) Answer: $7.6 \cdot 10^{10}$
- 7) Answer: 3.09, 3.099, 3.9, 3.999
- 8) Answer: 17.916 sec.
- 9) Answer: \$240.16
- 10) Answer: \$71.76
- 11) Answer: 2617
- 12) Answer: $0.9\bar{3}$
- 13) Answer: $\frac{697}{999}$
- 14) Answer: $0.\bar{2}$, $0.26\bar{2}$, $0.\bar{2}6$, $0.2\bar{6}$
- 15) Answer: 0.0588235294117647
- 16) Answer: Answers will vary. Possible answer: Perform the division $3 \div 8$ as shown below.

$$\frac{3}{8} =$$

$$3 \div 8 = \begin{array}{r} 0.375 \\ 8 \overline{) 3.000} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

In decimal notation, $\frac{3}{8}$ is equal to 0.375.

- 17) Answer: 94%
- 18) Answer: \$2987
- 19) Answer: 32%
- 20) Answer: 8.1%
- 21) Answer: 6%
- 22) Answer: 37%
- 23) Answer: 18.3 mpg
- 24) Answer: Answers will vary.
- 25) Answer: Answers will vary. The equation is not correct. The correct equation is $15\% \cdot x = 86$.
- 26) Answer: Answers will vary. The two salaries will be the same. $y \cdot 10\% \cdot 8\%$ is the same as $y \cdot 8\% \cdot 10\%$.
- 27) Answer: \$6096.15 ; \$59,106.15
- 28) Answer: \$352.30

Answer Key

Testname: PRACTICE EX1.TST

29) Answer: Rational

30) Answer: $5\sqrt[3]{2}$

31) Answer: $4\sqrt{3}$

32) Answer: 2.73

33) Answer: $2 < \sqrt{8} < 3$

$$2.8 < \sqrt{8} < 2.9$$

$$2.82 < \sqrt{8} < 2.83$$

$$2.828 < \sqrt{8} < 2.829$$

$$2.83$$

34) Answer: various answers

35) Answer: If the prime factorization of the denominator contains only factors of 2 or 5 the decimal will terminate.

36) Answer: 1.5525×10^4

37) Answer: 0.157894736842105263

38) Answer: 200.003

39) Answer: a. 459.346

b. 500.00

c. 459.35

40) Answer: a. i. 117 ii 117 iii 117.11

b. i 67 ii 67 iii 67.28

41) Answer: Answers may vary examples are 4.61, 4.62, 4.63, 4.64, 4.65

42) Answer: a. 12

b. $33\frac{1}{3}\%$

c. 40

d. 25%

43) Answer: \$3.22

44) Answer: $4.15 \cdot 10^{10}$

45) Answer: a. 3

b. -2

c. 625

d. $\frac{1}{2}$

46) Answer: a. Q,R

b. N,I,Q R

c. S, R

d. Q,R

e. I,Q, R

47) Answer:

48) Answer: $2 < \sqrt{6} < 3$

$$2.4 < \sqrt{6} < 2.5$$

$$2.44 < \sqrt{6} < 2.45$$

$$2.449 < \sqrt{6} < 2.450$$

$$2.45$$