

# ACCUPLACER

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## **Arithmetic Test**

The arithmetic test measures your skills in three primary categories. The first is operations with whole numbers and fractions. This includes addition, subtraction, multiplication, division and recognizing equivalent fractions and mixed numbers. The second category involves operations with decimals and percents. It includes addition, subtraction, multiplication, and division as well as percent problems, decimal recognition, fraction and percent equivalences, and estimation problems. The last category tests applications and problem solving. Questions include rate, percent, and measurement problems, geometry problems, and distribution of a quantity into its fractional parts. A total of 16 questions are asked.

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## *Sample Questions*

Solve the following problems and choose your answer from the alternatives given. You may use the paper you have been given for scratch work.

Question 1:

All of the following are ways to write 20 percent of N, EXCEPT

- A.  $0.20N$
- B.  $20/100N$
- C.  $1/5N$
- D.  $20N$

Question 2:

$7/20$

- A. 0.035
- B. 2.858
- C. 0.35
- D. 3.5

Question 3:

$7.86 \times 4.6 =$

- A. 36.156
- B. 36.216
- C. 351.56
- D. 361.56

Question 4:

Which of the following is the least?

- A. 0.105
- B. 0.501
- C. 0.015
- D. 0.15

Question 5:

The average weight for a group of 20 women is 130 pounds. If the average weight for  $\frac{3}{4}$  of these women was 140 pounds, what was the average weight, in pounds, for the rest of the women?

- A. 100
- B. 110
- C. 120
- D. 135

Question 6:

A soccer team played 160 games and won 65% of them. How many games did they win?

- A. 94
- B. 104
- C. 114
- D. 124

Question 7:

The Number of Employees of Company K Who Were Involved in Accidents

	Plant X	Plant Y
Mechanic	11	30
Power Machine Operators	9	12

The table above show the results of an industrial health survey of 10,000 people employed at Company K for more than 5 years. If 2,500 employees were surveyed in each of the four categories, which group of employees had the highest accident rate?

- A. Mechanics in Plant X
- B. Mechanics in Plant Y
- C. Power Machine Operators in Plant X
- D. Power Machine Operators in Plant Y

Question 8:

Three people who work full time are to work together on a project, but their total time on the project is to be equivalent to that of only one person working full time. If one of the people is budgeted for  $\frac{1}{2}$  of his time to the project and a second person for  $\frac{1}{3}$  of her time, what part of the third worker's time should be budgeted to this project?

- A.  $\frac{1}{3}$
- B.  $\frac{1}{4}$
- C.  $\frac{1}{6}$
- D.  $\frac{1}{8}$

**ANSWERS** (Arithmetic)

- 1. D
- 2. C
- 3. A
- 4. C
- 5. A
- 6. B
- 7. B
- 8. C

## ARITHMETIC REVIEW

The Mathematics Department at Onondaga Community College recommends that all students review this material prior to taking the Placement Test.

1. You had a balance of \$549 in your checking account before making deposits of \$52, \$102, \$17, and \$279. What is your new checking account balance?
2. The down payment on a motorcycle costing \$1105 is \$185. Find the amount that remains to be paid.
3. An accountant receives \$24,780 for 12 months. How much does he receive each month?
4. A compact car can be bought for \$2,000 down and 40 payments of \$225.50. Find the total cost of the car.
5. It costs \$.05 per hour to run an electric motor. How much does it cost to operate it for 65 hours?
6.  $100 \times 5.032 =$
7. Write  $\frac{17}{4}$  as a mixed number.
8. Write  $5\frac{1}{8}$  as an improper fraction.
9.  $\frac{5}{6} \times 12 =$
10.  $2\frac{2}{3} \times \frac{3}{16} =$
11.  $\frac{3}{4} - \frac{5}{12} =$
12.  $2\frac{1}{10} - \frac{3}{5} =$
13.  $\frac{5}{9} + \frac{1}{6} + \frac{2}{3} =$

14.  $8\frac{7}{8} - 5\frac{5}{8} =$

15. Convert the fractions to decimals:

a)  $2\frac{1}{2}$

b)  $\frac{6}{4}$

16. Convert the decimals to fractions:

a) 0.75

b) 3.56

17. Convert to percents:

a)  $\frac{1}{5}$

b) 21.04

c) .26

18. 20% of 50 =

## ARITHMETIC REVIEW ANSWERS

1.  $\$549 + \$52 + \$102 + \$17 + \$279 = \$999$

2.  $\$1105 - \$185 = \$920$

3.  $\$24,780 \div 12 = \$2,065$

4.  $\$2,000 + 40(\$225.50) = \$11,020$

5.  $\$.05 \times 65 = \$3.25$

6.  $100 \times 5.032 = 503.2$

7.  $\frac{17}{4} = 4\frac{1}{4}$

8.  $5\frac{1}{8} = \frac{41}{8}$

9.  $\frac{5}{6} \times 12 = \frac{5}{6} \times \frac{12}{1} = \frac{60}{6} = 10$

10.  $2\frac{2}{3} \times \frac{3}{16} = \frac{8}{3} \times \frac{3}{16} = \frac{8}{16} = \frac{1}{2}$

11.  $\frac{3}{4} - \frac{5}{12} = \frac{9}{12} - \frac{5}{12} = \frac{4}{12} = \frac{1}{3}$

12.  $2\frac{1}{10} - \frac{3}{5} = 2\frac{1}{10} - \frac{6}{10} = 1\frac{11}{10} - \frac{6}{10} = 1\frac{5}{10} = 1\frac{1}{2}$

13.  $\frac{5}{9} + \frac{1}{6} + \frac{2}{3} = \frac{10}{18} + \frac{3}{18} + \frac{12}{18} = \frac{25}{18} = 1\frac{7}{18}$

14.  $8\frac{7}{8} - 5\frac{5}{8} = 3\frac{2}{8} = 3\frac{1}{4}$

15. a)  $2\frac{1}{2} = 2.5$       b)  $\frac{6}{4} = 1.5$

16. a)  $0.75 = \frac{75}{100} = \frac{3}{4}$

b)  $3.56 = 3\frac{56}{100} = 3\frac{14}{25}$

17. a)  $\frac{1}{5} = .20 = 20\%$

b)  $21.04 = 2104\%$

c)  $.26 = 26\%$

18.  $(.20)(50) = 10$