Basic College Mathematics
Sample Review Questions

1) Write the improper fraction as a mixed or whole number. $\frac{29}{3}$ 1) _____

2) Find the indicated angle. Find the supplement of 66°. 2) _____

3) An election for student body president was held over 3 days. On the first day Ben received 135 votes and Carol received 280 votes. On the second day Ben received 257 votes and Carol received 218 votes. On the third day Ben received 220 votes and Carol received 322 votes. How many votes did Carol receive? 3) _____

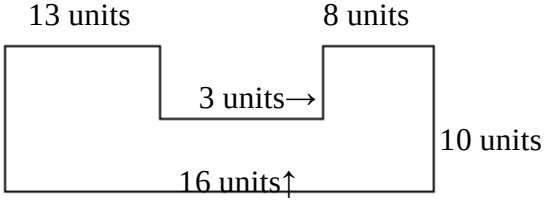
4) Divide, if possible. Write the answer in simplest form. 4) _____

$\frac{1}{8} \div 5$

5) Reduce the fraction by finding a common factor in the numerator and in the denominator and dividing by the common factor. 5) _____

$\frac{70}{80}$

6) Find the perimeter of the shape made up of rectangles and squares. 6) _____



7) Solve each proportion for the given variable. $\frac{3}{n} = \frac{3}{2}$ 7) _____

8) Write as a fraction or as a mixed number **0.8%** 8) _____

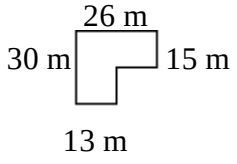
9) Write as a fraction or as a mixed number $\frac{2}{9}\%$ 9) _____

10) A pair of boards needs adjustment. One board is 52 inches and the other is $39\frac{9}{10}$ inches. Find how much the longer board should be shortened to make both boards the same length. 10) _____

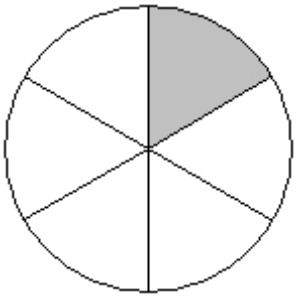
11) Find the value of x. 11) _____

$x \div \frac{7}{4} = \frac{11}{19}$

12) Find the perimeter of the shape made up of rectangles and squares. 12) _____



13) Write a fraction to represent the shaded part of the object. 13) _____



14) Write a fraction to represent the shaded part of the object. 14) _____

15) First round each number to one non-zero digit. Then perform the calculation using the rounded numbers to obtain an estimate. 15) _____

66.67 × 17.34

16) Write as an equivalent decimal. If a repeating decimal is obtained, use notation such as $0.\overline{4}$, $0.\overline{23}$, or $0.\overline{567}$. 16) _____

$\frac{3}{16}$

17) A printing company charges $1.5365 for each party invitation it prints. What would be the cost (before tax) for printing 400 party invitations? (Round the answer to the nearest cent.) 17) _____

18) Write the decimal as a fraction or mixed number in lowest terms.
699.3230 18) _____

19) Write the decimal as a fraction or mixed number in lowest terms.
0.5 19) _____

20) Pam bought 1000 pencils for $0.03 each. How much did she spend? 20) _____

21) Solve each proportion for the given variable. 21) _____

$$\frac{n}{22} = \frac{6}{11}$$

22) Simplify. $6^3 \times 8^3 - (6 - 4)$ 22) _____

23) A company spent $693,749,644 on advertising. Round the advertising figure to the nearest hundred-thousand. 23) _____

24) A 24-ounce can of pears costs $1.92. A 16-ounce can of the same brand of pears costs $1.60. How much does a consumer save in total by buying 2 large cans instead of 3 small cans? 24) _____

25) Solve . Round the answer to the nearest hundredth. 25) _____

$$\frac{x}{3.9} = \frac{0.08}{9}$$

26) Perform the set of operations, working from left to right. $19 + (-12) - (-3) - 2$ 26) _____

27) Write as a ratio in the simplest form.
$685 for 20 rolls of film. 27) _____

28) Last year, Lee bought a share of stock for $30.30. She was paid a dividend of $ 6.06. Determine what percent of the stock price is the dividend. Round to the nearest tenth if necessary. 28) _____

29) 1.4 is what percent of 32? 29) _____

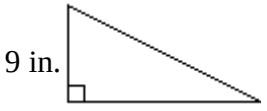
30) In a recent survey, a store found that $\frac{29}{46}$ of their customers were satisfied with the service they received from the store. Express this fraction as a percent rounded to the nearest hundredth of a percent if necessary. 30) _____

31) Tanya borrows $7300 and agrees to pay it back in 4 years. If the simple interest rate is 12%, find the total amount she pays back. 31) _____

32) Find the amount of decrease and the percent decrease when the original amount is 188 and the new amount is 38. 32) _____

33) Find the area. o**f** a triangle with a base of 9 m and a height of 20 m. 33) _____

34) Find the unknown side of the right triangle. Use a calculator or square root table when necessary and round to the nearest thousandth. 34) _____



12 in.

35) Find. $\sqrt{148}$. Round to the nearest thousandth when necessary. 35) _____

36) Use a calculator to approximate to the nearest thousandth. $\sqrt{5}$ 36) _____

37) A professional painter can paint 199 ft^2 in 41 minutes. She will be painting four walls in a house. They measure 6 ft × 19 ft, 9 ft × 15 ft, 3 ft × 13 ft, and 4 ft × 10 ft. How many minutes will it take her to paint all four walls? 37) _____

38) Translate the question into an equation. Do not solve. What is 28% of 83? 38) _____

39) Solve. $-2x + 45 = 7x + 9$ 39) _____

40) Subtract. 40) _____

$$-\frac{5}{6} - \left(-\frac{4}{5}\right)$$

41) Divide, if possible. Write the answer in simplest form. $3\frac{2}{5} \div 1\frac{1}{3}$ 41) _____

42) Add. 42) _____

$\frac{1}{6} + \frac{1}{8}$

43) Write an algebraic expression for each quantity using the given variable. 43) _____
The second angle of a triangle is triple the first. The third angle of the triangle is 22° larger than the first. Use the letter x.

44) Jody is using a recipe that calls for $\frac{7}{8}$ cup of milk per batch. If she has $11\frac{3}{8}$ cups 44) _____
of milk available, how many batches can she make?

45) Solve. Round decimals to the nearest thousandth and percents to the nearest tenth of a percent. 45) _____
The sales tax is 9%. Write this percent as a fraction.

46) Divide. 46) _____

$-\frac{1}{2} \div \left(-\frac{9}{10}\right)$

47) Traveling in France, Miguel exchanged 12 U.S. dollars for 82.8 francs. A few days later, he exchanged 25 U.S. dollars for francs and got the same exchange rate. How many francs did Miguel receive? Round to the nearest tenth. 47) _____

48) Combine like terms. 48) _____
8b + 5a + 4c - 4b + 2a

49) Combine like terms. 49) _____
-2a - 3.1 - 2.6c + 8a - 3 - 3 c - 6a

50) Change the mixed number to an improper fraction. $7\frac{5}{7}$ 50) _____

51) Write as a percent. Round to the nearest hundredth of a percent when necessary. 51) _____

$\frac{6}{25}$

52) **Round the decimal to the given place value.** 55.9729 (nearest thousandth) 52) _____

53) Solve . 53) _____
0.5x = 500

54) Solve .
$-5x + 13 = -6x + 1$ 54) _____

55) One day 18 teachers were sick with the flu. If this were 12% of the total number of teachers, how many teachers were there altogether? 55) _____

56) Simplify by using the order of operations. Round your answer to the nearest hundredth. $1.6^2 \div 3.1 + 16 \div 4.01 + 5.44$ 56) _____

57) Eachaya must make a 20% down payment on the purchase price of the $36,200 truck he is planning to buy. Find the down payment. 57) _____

58) Carlos is installing an invisible fence in his back yard which measures 110 feet by 66 feet by 89 feet by 97 feet. How many feet of wiring is needed to enclose his yard? 58) _____

59) Add. Simplify the answer. $\frac{1}{2} + \frac{1}{12}$ 59) _____

60) Simplify.
$5(4x - y) - 2(x - y)$ 60) _____

61) Subtract. Simplify the answer. $\frac{8}{25} - \frac{5}{25}$ 61) _____

62) The numbers of calls from telemarketers Lori received over the last seven weeks were as follows: 16, 13, 6, 9, 6, 2, 5. Find the mean. Round to the nearest tenth when necessary. 62) _____

63) Elizabeth is making matching holiday outfits for herself and her 3 children. Elizabeth's outfit requires $2\frac{9}{16}$ yds of fabric and each child's outfit requires $\frac{7}{8}$ yds. She finds a 5-yd remnant on sale. Is this enough material to make all 4 outfits? If not, how much more material is needed? 63) _____

64) Find the median: 825, 882, 891, 831, 856 64) _____

65) Subtract. Express the answer as a mixed number.
$38\frac{2}{3} - 25\frac{13}{16}$ 65) _____

66) Find the circumference of the circle. Use $\pi \approx 3.14$ and round to the nearest hundredth.
diameter = 15 yd

66) _____

67) Divide. $6.75 \div 0.09$

67) _____

68) Write the rate as a unit rate. 420 people in 20 buses

68) _____

69) Write as a percent. $\frac{1}{90}$

69) _____

70) One share of stock which originally sold for $200 now sells for $140. What is the percent of decrease? Round the answer to the nearest percent if necessary.

70) _____

71) Add:. 21 + (-68)

71) _____

72) Solve for the variable. $1.2x = 0.06$

72) _____

73) Write the equivalent decimal and percent for $\frac{7}{12}$.

73) _____

74) Arrange in order from smallest to largest. 0.071, 0.017, 0.011, 0.077

74) _____

75) A house sold for $115,000 and the real estate agent earned a commission of $2530. What was the commission rate?

75) _____

76) Write as an equivalent decimal.
$\frac{19}{20}$

76) _____

77) It is 94 miles from Franklin to Middleton. It is 93 miles from Middleton to Fontana. Driving directly, it is 153 miles directly from Franklin to Fontana. It is 43 miles from Fontana to Morland. If Tim drives from Franklin to Middleton, then from Middleton to Fontana, and finally home to Franklin, how many miles does he drive?

77) _____

78) Write the decimal as a fraction or mixed number in lowest terms. 3.2

78) _____

79) Solve . $26 = 5 \times n$

79) _____

80) Write in scientific notation. 0.000002116

80) _____

81) Simplify. $-5(2x - 4y) - 6(-x + 2y)$ 81) _____

82) Megan made her weekly trip to the fish market. This time she bought 2.8 pounds of cod for $2.75 per pound and 2.7 pounds of halibut for $8.50 per pound. How much did she spend altogether for fish? Round to the nearest cent if necessary. 82) _____

83) Carla took an English test with 80 problems. She got -48 of the problems wrong and 56 of the problems right. What percent of the test did she do correctly? 83) _____

84) A 2.5-m rope is attached to a 5.1-m rope. However, when the ropes are tied, 3 cm of length is lost to form the knot. What is the length of the tied ropes? 84) _____

85) A store orders 19 cases of snack crackers. Each case contains 108 snack crackers. How many snack crackers did the store order? 85) _____

86) Leslie enjoys skiing in the winter. Last year she skied 21 times and spent a total of $693. How much did it cost her each time? 86) _____

87) Kevin read $\frac{3}{11}$ of a book on Monday. He read $\frac{3}{13}$ of the book on Wednesday. 87) _____

What fractional part of the book has Kevin read so far this week?

88) Jody is using a recipe that calls for $\frac{7}{8}$ cup of milk per batch. If she has $11\frac{3}{8}$ cups 88) _____

of milk available, how many batches can she make?

89) Divide. $2.8\overline{)163.2186}$. Round to the nearest hundredth. 89) _____

90) 18 is 3% of what? 90) _____

91) 160% of 373 is what? 91) _____

92) At a college in eastern Missouri, 8 out of every 10 students worked either a full-time or part-time job in addition to their studies. If 6000 students were enrolled at the college, how many did not have a full-time or part-time job? Round your answer to the nearest hundredth when necessary. 92) _____

93) Write in standard notation 4.37×10^6 93) _____

94) Amy teaches Chinese lessons for $75 per student for a 6-week session. From one group of students, she collects $1800. Find how many students are in the group. 94) _____

95) Write in standard notation. 6.357×10^{-5} 95) _____

96) Find the percent of increase when the original amount is 50 and the new amount is 95. Round to the nearest percent if necessary. 96) _____

97) What is 38% of 1030? 97) _____

98) Solve. $n \times 0.0027 = 27$ 98) _____

99) Simplify. $8 \times 25 - 20 \div 5 + 3^2$ 99) _____

100) Perform each operation in proper order. $10^3 \times 3^2 + (14 - 4) \times 3$ 100) _____

101) To get credit for graduation, Brittany completed 40 hours of community service. She worked at a soup kitchen for $\frac{1}{6}$ of the time. She picked up litter along highways for $\frac{4}{7}$ of the time. The rest of the hours she spent tutoring younger children after school. How much time did Brittany spend tutoring? 101) _____

1) $9\frac{2}{3}$
2) 114°
3) 820
4) $\frac{1}{40}$
5) $\frac{7}{8}$
6) 100 units
7) 2
8) $\frac{1}{125}$
9) $\frac{1}{450}$
10) $12\frac{1}{10}$ in.
11) $x = \frac{77}{76}$
12) 112 m
13) $\frac{1}{6}$
14) $\frac{3}{8}$
15) estimate: 1400
16) 0.1875
17) $614.60
18) $699\frac{323}{1000}$
19) $\frac{1}{2}$
20) $30.00
21) 12
22) 110,590
23) 693,700,000
24) $0.96
25) 0.03
26) 8
27) $\frac{\$137}{4 \text{ rolls of film}}$
28) 20%
29) 4.375%
30) 63.04%
31) $10,804
32) 150; 79.8%
33) 90 m^2
34) 15 in.
35) 12.166

36) 2.236
37) 67.6 min
38) n = 28% × 83
39) 4
40) $-\frac{1}{30}$
41) $2\frac{11}{20}$
42) $\frac{7}{24}$
43) x = first angle;
3x = second angle;
x + 22 = third angle
44) 13 batches
45) $\frac{9}{100}$
46) $\frac{5}{9}$
47) 172.5 francs
48) 7a + 4b + 4c
49) -5.6c - 6.1
50) $\frac{54}{7}$
51) 24 %
52) 55.973
53) 1000
54) -12
55) 150 teachers
56) 10.26
57) $7240.00
58) 362 feet
59) $\frac{7}{12}$
60) 18x - 3y
61) $\frac{3}{25}$
62) Mean = 8.1 calls
63) No; $\frac{3}{16}$ yds
64) Median = 856
65) $12\frac{41}{48}$
66) 47.1 yd
67) 75
68) 21 people/bus
69) $1\frac{1}{9}$%

70) 30%
71) -47
72) 0.05
73) 0.583; 58.3%
74) 0.011, 0.017, 0.071, 0.077
75) 2.2%
76) 0.95
77) 340
78) $3\frac{1}{5}$
79) 5.2
80) 2.116×10^{-6}
81) $-4x + 8y$
82) $30.65
83) 70%
84) 7.57 m
85) 2052
86) $33
87) $\frac{72}{143}$ of the book was read
88) 13 batches
89) 58.29
90) 600
91) 596.8
92) 1200 students
93) 4,370,000
94) 24 students
95) 0.00006357
96) 90%
97) 391.4
98) 10,000
99) 205
100) 9030
101) $10\frac{10}{21}$ hours