

Name _____

Math 70 Study Guide
Spring 2011

These Basic Math problems are representative of what you might expect to find on the Final Exam. The Final Exam problems will be similar, but not exactly the same. Use this study guide to review concepts you already know and identify concepts you may need help with.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve.

- 1) Isabelle went shopping for holiday presents for her family. She spent \$350 on Monday, \$396 on Tuesday, and \$242 on Wednesday. What is the total amount of money that she spent on gifts? 1) _____

Subtract. Check by adding.

- 2) _____
7010
- 4959
 2) _____

Solve.

- 3) A camera that sells regularly for \$530 is discounted by \$69 in a sale. What is the sale price? 3) _____

Round the whole number to the given place value.

- 4) 575,599 to the nearest ten thousand 4) _____

Multiply.

- 5) 1391×72 5) _____

Solve.

- 6) A company rents a mid-size car at \$303 per month for six months. What is the cost for the car rental during this time? 6) _____

Divide.

- 7) $12,463 \div 16$ 7) _____

Solve.

- 8) One ticket won a prize of \$7,752,000. The winning ticket was purchased by 24 people who had pooled their money. Find how many dollars each person receives if they each receive an equal share. 8) _____

Find the average of the list of numbers.

- 9) 44, 30, 13, 8, 37, 12 9) _____

Simplify.

10) $28 + 22 \cdot 25$

10) _____

11) $6[3^2 + 7(3 + 2)]$

11) _____

Find the prime factorization of the number.

12) 126

12) _____

Write the fraction in simplest form.

13) $\frac{75}{105}$

13) _____

Determine whether the pair of fractions is equivalent.

14) $\frac{3}{5}$ and $\frac{27}{40}$

14) _____

Write the fraction as an equivalent fraction with the given denominator.

15) $\frac{2}{3} = \frac{\quad}{24}$

15) _____

Perform the indicated operation. Write the answer in simplest form.

16) $\frac{7}{8} \cdot 2$

16) _____

17) $\frac{2}{8} \div \frac{6}{7}$

17) _____

18) $5\frac{3}{5} \cdot 2\frac{1}{7}$

18) _____

19) $4\frac{4}{9} \div \frac{1}{9}$

19) _____

Solve. Write the answer in simplest form.

20) A rectangular flower bed in front of a building measures $12\frac{1}{2}$ feet by $1\frac{3}{5}$ feet. What is the total area of the flower bed?

20) _____

Find the least common multiple (LCM) of the list of numbers.

21) Find the LCM of 9 and 12.

21) _____

Insert < or > to form a true statement.

22) $\frac{11}{18}$ $\frac{5}{6}$

22) _____

Perform the indicated operation. Simplify your answers.

23) $\frac{3}{8} + \frac{3}{8}$

23) _____

24) $\frac{2}{3} + \frac{2}{15}$

24) _____

25) $\frac{7}{9} - \frac{1}{12}$

25) _____

26)

$$\begin{array}{r} 19\frac{1}{7} \\ - \quad \frac{2}{7} \\ \hline \end{array}$$

26) _____

27) $\frac{11}{6} \div \frac{9}{5} \cdot \frac{2}{3}$

27) _____

Solve.

28) A recipe for cake calls for $1\frac{2}{3}$ cups of brown sugar. If you are only making a half-batch, how much brown sugar would you need?

28) _____

Round the decimal to the indicated place value.

29) 49.3899, nearest thousandth

29) _____

Insert <, >, or = to form a true statement.

30) 353.110 _____ 353.101

30) _____

Write the decimal as a fraction or mixed number in simplest form.

31) 0.552

31) _____

Write the fraction or mixed number as a decimal. If necessary, round to the nearest thousandth.

32) $\frac{23}{25}$

32) _____

Perform the indicated operations. Round the result to the nearest thousandth if necessary.

33) $91.04 + 69.5 + 39.602$

33) _____

Subtract.

34) $16.56 - 8.138$

34) _____

Multiply.

35) 0.0909×3.03

35) _____

Perform the indicated operations. Round the result to the nearest thousandth if necessary.

36) $0.21 \overline{)16.59}$

36) _____

Write the decimal as a fraction or mixed number in simplest form.

37) 0.288

37) _____

38) 0.472

38) _____

Estimate the quotient by first rounding each number.

39) $148.74 \div 54.6$

39) _____

Insert $<$, $>$, or $=$ between the pair of numbers to form a true statement.

40) $\frac{5}{3}$ _____ 1.665

40) _____

Write each ratio or rate as a fraction in simplest form.

41) 24 inches of rain in 45 days

41) _____

Find the unit rate.

42) 1796 miles in 40 hours

42) _____

Decide which is the better buy.

43) Crackers:
32 ounces for \$1.98
26 ounces for \$1.72

43) _____

Find the unknown number n in the proportion.

44) $\frac{n}{54} = \frac{1}{18}$

44) _____

45) $\frac{\frac{4}{12}}{\frac{4}{9}} = \frac{n}{\frac{6}{2}}$

45) _____

Solve.

46) Grant worked 6 hours and packed 94 cartons of books. At this rate, how many cartons can he pack in 10 hours?

46) _____

Write the percent as a decimal.

47) 36%

47) _____

Write the decimal as a percent.

48) 0.446

48) _____

Write the percent as a fraction or mixed number in simplest form.

49) 3.5%

49) _____

Write the fraction or mixed number as a percent.

50) $\frac{7}{15}$

50) _____

Solve.

51) What number is 38% of 130?

51) _____

52) 0.8% of what number is 15.2?

52) _____

53) 732 is what percent of 915?

53) _____

Solve. Round to the nearest tenth, if necessary.

54) A company increased the number of its employees from 520 to 545. What was the percent increase in employees?

54) _____

55) In the past ten years, the population of a city decreased from 165,000 to 150,000. Find the percent decrease.

55) _____

Solve.

56) The mosquito population within a defined area is estimated at 25 million. Due to weather conditions, it is projected that this population will increase by 60%. Find the increase and the projected population.

56) _____

Solve. Round all dollar amounts to the nearest cent, if necessary.

57) A \$160.00 dress is on sale for 40% off. Find the discount and the sale price.

57) _____

Convert.

58) 5.8 cm to millimeters

58) _____

59) 112 in. = _____ ft _____ in.

59) _____

Convert as indicated.

60) 28 yd to feet

60) _____

61) $8\frac{3}{4}$ lb to ounces

61) _____

62) 8 kl to liters

62) _____

Convert. Round to the nearest tenth of a degree, if necessary.

63) 112°F to degrees Celsius

63) _____

64) 42.7°C to degrees Fahrenheit

64) _____

Perform the indicated operation.

65) 1 qt 1 pt + 3 qt 1 pt

65) _____

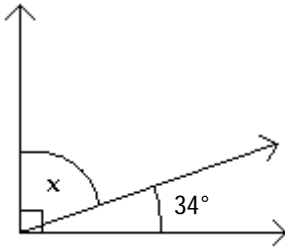
Solve.

66) If 2 ft 11 in. of material is used to manufacture one scarf, how much material is needed for 9 scarves?

66) _____

67) Find the measure of $\angle x$.

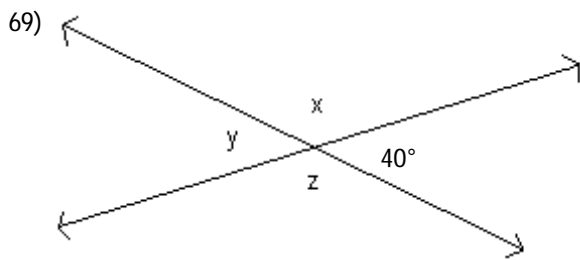
67) _____



68) Find the supplement of 141° .

68) _____

Find the measure of the indicated angle.

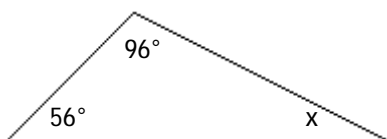


69) _____

Find the measure of $\angle y$.

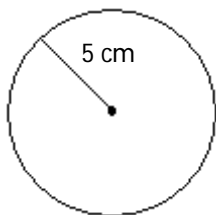
70) Find the measure of $\angle x$.

70) _____



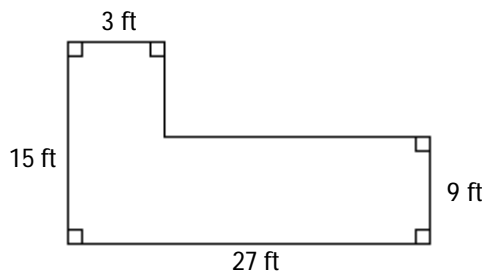
Find the perimeter (or circumference) and area of the figure. For the circle, give the exact value and then use $\pi \approx 3.14$ for an approximation.

71)



71) _____

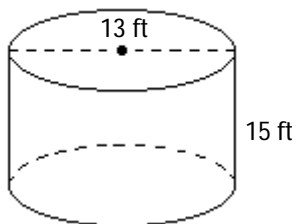
72)



72) _____

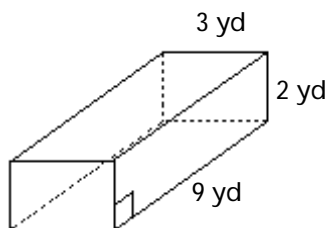
Find the volume of the solid. For the cylinder, use $\frac{22}{7}$ for π .

73)



73) _____

74)



74) _____

Find the square root and simplify. Round the square root to the nearest thousandth if necessary.

75) $\sqrt{49}$

75) _____

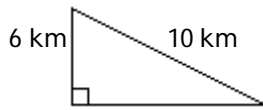
Find the square root.

76) $\sqrt{\frac{49}{81}}$

76) _____

Find the unknown length in the right triangle. If necessary, approximate the length to the nearest thousandth.

77)

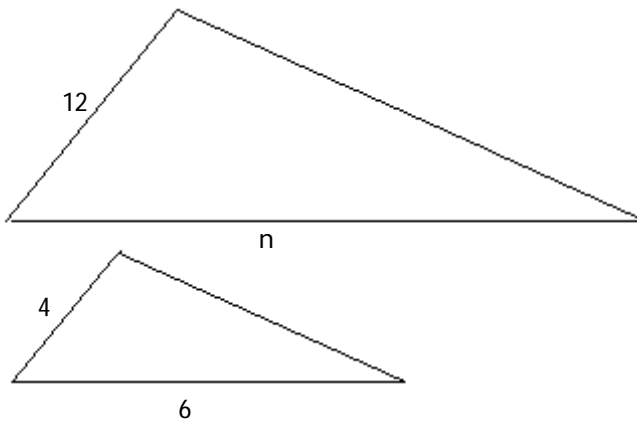


77) _____

Solve.

78) Given that the following triangles are similar, find the missing length n.

78) _____



79) If a flagpole 9 feet tall casts a shadow that is 12 feet long, find the length of the shadow cast by an antenna which is 21 feet tall.

79) _____

80) Find the opposite of $\frac{5}{9}$.

80) _____

Simplify.

81) $-(-93)$

81) _____

82) $-|-69|$

82) _____

Insert $<$ or $>$ between the pair of numbers to form a true statement.

83) -16 _____ -67

83) _____

Simplify the expression.

84) $-7 + 9$

84) _____

85) $15 - 26$

85) _____

86) $-6 - (-22)$

86) _____

87) $-27 \div (-3)$

87) _____

88) $-12(-8)$

88) _____

89) $(-13) + 45 \div (-3)$

89) _____

90) $(-2)^3 - 30 \div (-5)$

90) _____

Write each ratio or rate as a fraction in simplest form.

91) 12 inches of rain in 34 days

91) _____

Simplify the expression.

92) $\frac{-4(-3) - 48}{-1(-4 - 5)}$

92) _____

93) Evaluate: $\frac{7x + 1}{2y}$ when $x = 5$ and $y = -6$

93) _____

94) Simplify $5x - 2 + 3x + 3$ by combining like terms.

94) _____

95) Multiply: $-2(5y + 7)$

95) _____

96) Simplify: $6(3z + 2) - z - 35$

96) _____

Solve.

97) $x - 17 = 14$

97) _____

98) $-8x = 24$

98) _____

99) $-\frac{3}{5}x = -18$

99) _____

100) $3x - 4 - 2x - 7 = 30$

100) _____

101) $4x - 9 = -25$

101) _____

102) $6x + 4 = x + 24$

102) _____

103) $2 + 3(2n - 1) = 35$

103) _____

- 104) Translate the following phrase into mathematical expressions. Use x to represent "a number."
- a. The product of a number and 19
 - b. Twice a number subtracted from 20

104) _____

- 105) The difference of four times a number and six times the same number is 14.

105) _____