Math 70 Fall 2009 Review Final

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Write the decimal in numbers.

1) Nine hundred seventy–five thousandths 1) _____

A) 0.975 B) 900.75 C) 0.0975 D) 0.00975

Round the number to the given place value.

2) In a town in California, the average consumption of soft drinks per day per elementary school student is 15.619 ounces. Round this value to the nearest tenth. 2) _____

A) 15.7 ounces B) 15.6 ounces C) 16 ounces D) 15.62 ounces

Add.

3) 27.7 + 59.61 + 10.88 3) _____

A) 98.2 B) 98.19 C) 98.29 D) 99.19

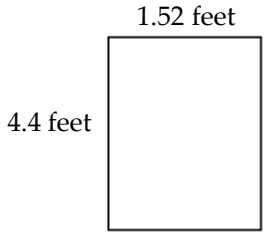
Subtract.

4) 15.2 – 13.81 4) _____

A) 30.01 B) 1.49 C) 29.01 D) 1.39

Solve.

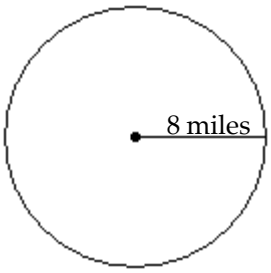
5) Find the perimeter of the rectangle. 5) _____



A) 11.84 feet B) 5.92 feet C) 3.92 feet D) 6.688 feet

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

6) Find the exact circumference of the circle. Then use the approximation 3.14 for π and approximate the circumference. 6) _____



A) 8π mi, 25.12 mi B) 64π mi, 200.96 mi
C) 16π mi, 50.24 mi D) 16π mi, 50.4 mi

Multiply.

7) 0.29×0.7 7) _____

A) 0.203 B) 0.00203 C) 0.0203 D) 2.03

Estimate the quotient by first rounding each number.

8) $124.43 \div 31.5$ 8) _____

A) 4 B) 6 C) 0.4 D) 40

Divide.

9) $6.27 \div 1000$ 9) _____

A) 0.000627 B) 0.00627 C) 6270 D) 627

Write the fraction as a decimal. Round to the nearest thousandth if necessary.

10) $\frac{13}{12}$ 10) _____

A) 1.084 B) 1.083 C) 1.082 D) 10.834

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

11) 0.448 ___ 0.438 11) _____

A) = B) > C) <

Write the ratio as a ratio of whole numbers using fractional notation. Write the fraction in simplest form.

12) 60 yards to 114 yards 12) _____

A) $\frac{10}{19}$ yards B) 6 C) 6 yards D) $\frac{10}{19}$

Fill in the table to calculate miles per gallon.

13) 13) _____

Beginning Odometer Reading	Ending Odometer Reading	Miles Driven	Gallons of Gas Used	Miles Per Gallon (round to the nearest tenth)
53,412	53,947		17.1	

A) miles driven: 535; miles per gallon: 9148.5
B) miles driven: 535; miles per gallon: 31.3
C) miles driven: 107,359; miles per gallon: 31.3
D) miles driven: 107,359; miles per gallon: 6278.3

Determine whether the proportion is true.

14) $\frac{15}{3} = \frac{25}{5}$ 14) _____

A) True B) False

Find the unknown number n in the proportion.

15) $\frac{2}{n} = \frac{0.3}{0.9}$ 15) _____

A) $\frac{27}{100}$ B) $1\frac{4}{5}$ C) $\frac{3}{5}$ D) 6

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

Arrange in order from smallest to largest.

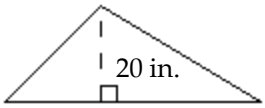
16) 0.052, 0.025, 0.022, 0.055 16) _____

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

17) $0.5[1.73 - (0.7)^2]$ 17) _____

Find the area of the triangle or rectangle. Round to the nearest thousandth, if necessary.

18) 18) _____



29 in.

Find the unit price.

19) Find which is the better buy (lower cost per ounce) by finding each unit price rounded to three decimal places if necessary. Assume that different sizes of the same brand are being compared. 19) _____

Cream Rinse:
$10.03 for 18 ounces
$6.60 for 12 ounces

Solve.

20) A solution strength of 5 mg of medicine in 1 mL of solution is available. If a patient needs 8 mg, how many mL do you administer? 20) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Write the decimal as a percent.

21) In a large city, 0.018 of the budget went toward city workers' salaries. 21) _____

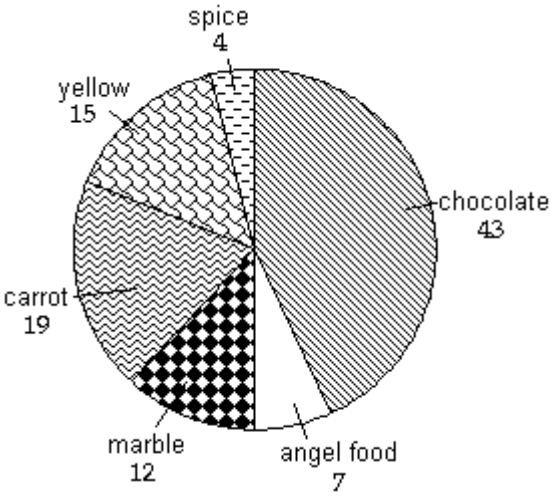
A) 1.8% B) 18% C) 0.0018% D) 0.018%

Write the percent as a decimal.

22) 27% of students at a small college lived at home while attending classes. 22) _____

A) 27.0 B) 2.7 C) 0.027 D) 0.27

A group of 100 adults were asked what type of cake was their favorite. The circle graph shows the results.



23) What percent preferred chocolate cake? 23) _____

A) $\frac{1}{43}\%$ B) 43% C) $\frac{43}{100}\%$ D) $\frac{100}{43}\%$

Solve.

24) 75% of 48 is what number? 24) _____

A) 360 B) 6.4 C) 4 D) 36

Translate the question into a proportion. Do not solve.

25) 48.8 is 50% of what number? 25) _____

A) $\frac{48.8}{b} = \frac{50}{100}$ B) $\frac{50}{48.8} = \frac{p}{100}$ C) $\frac{a}{48.8} = \frac{50}{100}$ D) $\frac{50}{b} = \frac{48.8}{100}$

Solve.

26) The Smale family paid 17% of the purchase price of a $175,000 home as a down payment. Determine the amount of the down payment. 26) _____

A) $2975 B) $298 C) $29,750 D) $10,294

27) A union contract calls for a 5.8% salary increase for all employees. Determine the increase that a worker currently making $28,040 under this contract can expect. 27) _____

A) $29,666.32 B) $1626.32 C) $26,413.68 D) $16,263.20

Solve. Round the answer to the nearest cent, if necessary.

28) Last year the profit for a company was $101,000. This year's profit decreased by 4.3%. Find this year's profit. 28) _____

A) $57,570 B) $43,430 C) $96,657 D) $4343

Convert.

29) 6.9 cm to millimeters 29) _____

A) 69 mm B) 0.69 mm C) 0.069 mm D) 690 mm

Convert as indicated.

30) 491 g to milligrams 30) _____

A) 0.0491 milligrams B) 0.491 milligrams
C) 49,100 milligrams D) 491,000 milligrams

31) 30 ft to yards 31) _____

A) 10 yd B) $3\frac{1}{3}$ yd C) 1080 yd D) 90 yd

32) 112 oz to pounds 32) _____

A) 7 lb B) 28 lb C) 11 lb D) 8 lb

Convert as indicated. If necessary, round to two decimal places.

33) 12.5 liters to gallons 33) _____

A) 13.25 gal B) 47.38 gal C) 11.88 gal D) 3.25 gal

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

34) Mario is planning what to wear on a hiking trip tomorrow. A weather forecast predicts a high temperature of 66°F in the area which he will be visiting. Find this temperature in degrees Celsius. 34) _____

A) 18.9°C B) 86.8°C C) 4.7°C D) 150.8°C

Solve.

35) A mountain in the Great Smoky Mountains National Park has an elevation of 5563 feet above sea level. A gap in the Atlantic Ocean has an elevation of 24,357 feet below sea level. Represent the difference in elevation between these two points. 35) _____

A) 13,231 ft B) 35,483 ft C) 18,794 ft D) 29,920 ft

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

Perform the indicated operation.

36) 7.65 kg + 211 g 36) _____

Solve. Round to the nearest tenth, if necessary.

37) In the past ten years, the population of a city decreased from 120,000 to 115,000. Find the percent decrease. 37) _____

Find the total amount in the compound interest account.

38) $6000 is compounded quarterly at a rate of 11% for 20 years. (The compound interest factor is 8.76085.) 38) _____

Solve. Remember to insert units when writing your answer.

39) A company wishes to ship 7 boxes of their product, each box weighing 2 lb 4 oz. What is the total weight of 7 boxes? 39) _____

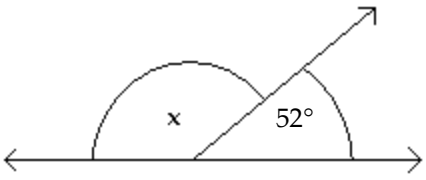
Solve.

40) Frank burns 270 calories each hour while running. How many calories does he use if he runs 1 hour per day for 4 days? 40) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the measure of the indicated angle. Figure is not drawn to scale.

41) 41) _____

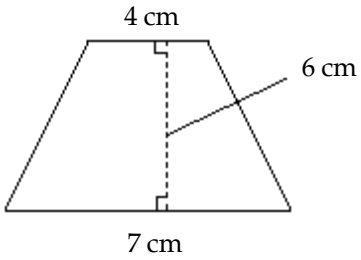


Find the measure of ∠x.

A) 128° B) 38° C) 142° D) 48°

Find the area of the geometric figure.

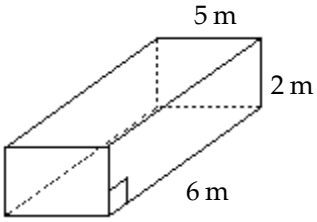
42) Trapezoid 42) _____



A) 168 sq cm B) 33 sq cm C) 66 sq cm D) 84 sq cm

Find the volume of the solid. Use $\frac{22}{7}$ for π.

43) 43) _____



A) 13 cu m B) 10 cu m C) 180 cu m D) 60 cu m

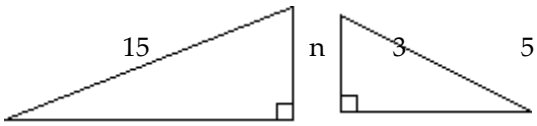
Find the square root.

44) $\sqrt{\frac{64}{121}}$ 44) _____

A) $\frac{2}{3}$ B) $\frac{9}{11}$ C) $\frac{8}{15}$ D) $\frac{8}{11}$

Given that the pair of triangles is similar, find the length of the side labeled n.

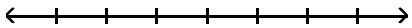
45) 45) _____

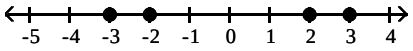


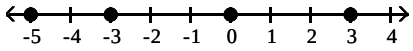
A) 3 B) 9 C) 12 D) 5

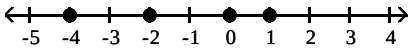
Graph the signed numbers in the list on a number line.

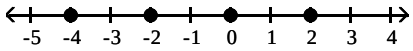
46) −4, −2, 0, 2 46) _____



A) 

B) 

C) 

D) 

Add.

47) 12 + (−6) + (−20) 47) _____

A) 38 B) −14 C) −2 D) 26

Find the absolute value.

48) |−22| 48) _____

A) 44 B) 0 C) −22 D) 22

Solve.

49) A mountain in the Great Smoky Mountains National Park has an elevation of 5213 feet above sea level. A gap in the Atlantic Ocean has an elevation of 24,373 feet below sea level. Represent the difference in elevation between these two points. 49) _____

A) 13,947 ft B) 34,799 ft C) 19,160 ft D) 29,586 ft

Divide.

50) −90 ÷ (−9) 50) _____

A) 10 B) $\frac{1}{10}$ C) −10 D) 0

Evaluate the expression for the given replacement values.

51) x − y + z for x = 24, y = 10, z = 5 51) _____

A) 9 B) 19 C) 20 D) 39

Solve.

52) $x + 5 = -29 + 13$ 52) _____

A) −21 B) 47 C) 21 D) −47

Solve. First combine any like terms on each side of the equation.

53) $-6x + 3x = 21$ 53) _____

A) $-\frac{7}{3}$ B) $\frac{7}{3}$ C) −7 D) 7

Solve the equation.

54) $4n - 2 = 34$ 54) _____

A) 32 B) 9 C) 36 D) 10

Solve.

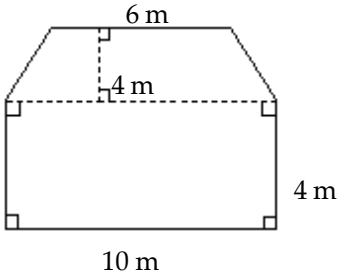
55) The difference of four times a number and six times the same number is 10. 55) _____

A) 5 B) −10 C) −5 D) 10

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

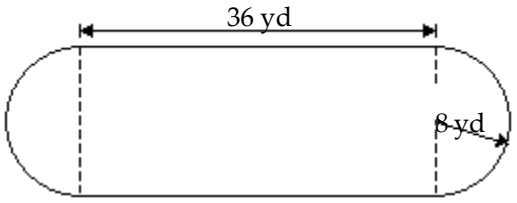
Find the area of the geometric figure.

56) 56) _____



Solve.

57) Find the perimeter. Approximate the result to the nearest tenth using 3.14 for π. 57) _____



Simplify.

58) $\dfrac{12(-1) - (-7)(-3)}{2[-16 \div (-4 - 4)]}$ 58) _____

Solve.

59) Drew has \$154 in his checking account. He writes a check for \$79, withdraws \$40 from an ATM, and then deposits \$33. Represent the new balance in his account by an integer. 59) _____

60) In real estate, a house's selling price P is found by adding the real estate agent's commission C to the amount A that the seller of the house receives: P = A + C. Jorie's house sold for \$270,000. Her real estate agent received a commission of \$10,800. How much did Jorie receive? 60) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

The table shows the number of votes each candidate received in the last election.

Candidate	Votes
Mr. Olsen	**2078**
Ms. Li	**3760**
Mr. Barone	**2780**
Ms. Vaporis	**3706**

61) Write in words the number of votes received by Mr. Olsen. 61) _____

A) two thousand, seven hundred eighty B) two thousand, seven hundred eight

C) twenty thousand, seventy–eight D) two thousand, seventy–eight

Solve.

62) What is 594 increased by 78? 62) _____

A) 682 B) 671 C) 672 D) 662

63) Find 815 less 59. 63) _____

A) 874 B) 756 C) 656 D) 746

Multiply.

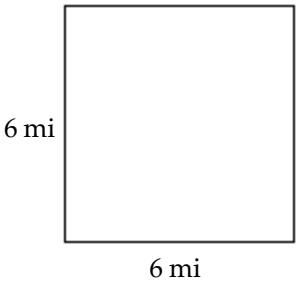
64) 64) _____

$$\begin{array}{r} 107 \\ \times\ 14 \\ \hline \end{array}$$

A) 1498 B) 1491 C) 1505 D) 238

Find the area of the rectangle.

65) 65) _____



A) 39 sq mi B) 32 sq mi C) 24 sq mi D) 36 sq mi

Solve.

66) Find 333 divided by 8. 66) _____

A) 41 B) 41 R 5 C) 41 R 7 D) 46

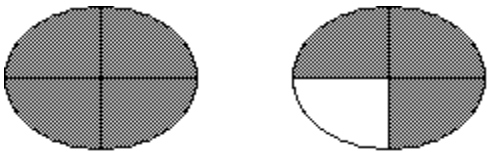
Write the improper fraction as a mixed or whole number.

67) $\frac{38}{3}$ 67) _____

A) $13\frac{2}{3}$ B) $12\frac{2}{3}$ C) $11\frac{2}{7}$ D) $\frac{2}{3}$

Write the shaded area in the figure as a mixed number and as an improper fraction.

68) 68) _____



A) $4\frac{3}{4}$; $\frac{7}{4}$ B) $2\frac{3}{4}$; $\frac{7}{4}$ C) $1\frac{3}{4}$; $\frac{7}{4}$ D) $1\frac{7}{8}$; $\frac{7}{4}$

Write the fraction in simplest form.

69) $\frac{27}{45}$ 69) _____

A) $\frac{3}{5}$ B) $\frac{9}{5}$ C) $\frac{27}{45}$ D) $\frac{3}{9}$

Determine whether the pair of fractions is equivalent.

70) $\frac{2}{6}$ and $\frac{6}{10}$ 70) _____

A) not equivalent B) equivalent

Multiply. Write the answer in simplest form.

71) $\frac{8}{9} \cdot 5$ 71) _____

A) $\frac{8}{45}$ B) $\frac{40}{9}$ C) $\frac{53}{9}$ D) $\frac{13}{9}$

Divide. Write the answer in simplest form.

72) $\frac{3}{19} \div \frac{5}{14}$ 72) _____

A) $\frac{40}{95}$ B) $\frac{42}{95}$ C) $\frac{42}{93}$ D) $\frac{41}{95}$

Use the order of operations to simplify the expression.

73) $\frac{1}{8} + \frac{1}{3} \cdot \frac{1}{4}$ 73) _____

A) $\frac{11}{96}$ B) $\frac{5}{24}$ C) $\frac{7}{6}$ D) $\frac{1}{48}$

74) $\frac{9}{4} \div \frac{7}{5} \cdot \frac{2}{3}$ 74) _____

A) $\frac{15}{14}$ B) $\frac{135}{56}$ C) $\frac{21}{10}$ D) $\frac{4}{9}$

List all the factors of the number.

75) 70 75) _____

A) 1, 3, 5, 7, 9, 15, 20, 35, 70 B) 1, 2, 3, 5, 7, 9, 15, 35, 70

C) 1, 2, 5, 7, 35, 70 D) 1, 2, 5, 7, 10, 14, 35, 70

Simplify.

76) $81 \div 3 + \{2 \cdot [18 - (8 \cdot 2)]\}$ 76) _____

A) 21 B) 34 C) 31 D) 26

Solve. Write the answer in simplest form.

77) A recipe calls for $\frac{3}{5}$ of a pound of sausage. How much sausage should be used if only $\frac{1}{4}$ of the recipe is being made? 77) _____

A) $\frac{3}{20}$ lb B) $\frac{12}{5}$ lb C) $\frac{4}{9}$ lb D) $\frac{1}{3}$ lb

Subtract and simplify.

78) $\frac{7}{9} - \frac{1}{12}$ 78) _____

A) $\frac{13}{18}$ B) $\frac{25}{36}$ C) $\frac{2}{3}$ D) $\frac{1}{2}$

79) $15\frac{5}{16} - 6\frac{3}{8}$ 79) _____

A) $7\frac{15}{16}$ B) $8\frac{15}{16}$ C) $9\frac{13}{16}$ D) 8

Add and simplify.

80) $\frac{1}{6} + \frac{1}{12}$ 80) _____

A) $\frac{1}{6}$ B) $\frac{1}{9}$ C) $\frac{19}{72}$ D) $\frac{1}{4}$

1) A
2) B
3) B
4) D
5) A
6) C
7) A
8) A
9) B
10) B
11) B
12) D
13) B
14) A
15) D
16) 0.022, 0.025, 0.052, 0.055
17) 0.62
18) 290 sq. in.
19) $6.60 for 12 ounces
20) 1.6 mL
21) A
22) D
23) B
24) D
25) A
26) C
27) B
28) C
29) A
30) D
31) A
32) A
33) D
34) A
35) D
36) 7.861 kg
37) 4.2%
38) $52,565.10
39) 15 lb 12 oz
40) 1080 cal
41) A
42) B
43) D
44) D
45) B
46) D
47) B
48) D

49) D
50) A
51) B
52) A
53) C
54) B
55) C
56) 72 sq m
57) 122.2 yd
58) –8.25
59) $68
60) $259,200
61) D
62) C
63) B
64) A
65) D
66) B
67) B
68) C
69) A
70) A
71) B
72) B
73) B
74) A
75) D
76) C
77) A
78) B
79) B
80) D