GED 150

Mathematics

Challenge Examination

Text: ***Basic College Mathematics***

Seventh Edition, 2012

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Completing Your Challenge Examination

When you enrolled, the admissions committee reviewed the materials you submitted and determined that based on your experience, you are eligible to challenge this course.

Challenge Examination Components

The Examination

The challenge examination is comparable to the final examination for the course. Questions may be multiple choice or true/false statements.

The Answer Sheet

The answer sheet for this challenge examination contains a bar code with your name, identification number and course number. The answer sheet may only be used for this examination. You may also complete your examination online using the Coast Connection student portal.

The Textbook

The examination is based on the contents of the textbook listed on the cover of this booklet. Although you are being given an opportunity to challenge this course based on academic competencies identified in your occupational or life experiences, we suggest you review the textbook prior to attempting the examination.

Before Beginning Your Examination

In order to successfully complete this course, we recommend that you do the following before beginning:

- Be sure that you have the correct edition of the course textbook.
- Become familiar with the contents of the textbook, beginning with the table of contents. Authors often include supplementary material at the end of the text, such as a glossary and/or reference section, that will help you as you complete your examination.

Many textbook publishers have developed excellent websites to accompany their textbooks. The site's address is generally printed on the introductory pages of the textbook or is sometimes found on the back cover. We recommend that you visit the website for your text. These sites can enrich your understanding of the course material.

Submitting Your Examination by Mail

You may send your completed challenge examination to the following mailing address:

California Coast University
Testing Department
925 N. Spurgeon Street
Santa Ana, California 92701

Submitting Your Examination Online

Students may access the online testing features via the Coast Connection student portal and complete and submit their examinations online.

After logging in to your online account, click on *My Academic Plan* and select the course you are working on to complete the challenge examination. It is recommended that you keep a copy of your examination answers for your own personal records.

Submitting Your Examination by Fax

You can also fax multiple choice examinations to the Grading Department at (714) 547-1451. When faxing exams, please do not resize your fax.

Examination Grading

Your grade in the course will be determined by the percentage of correct answers.

A = 90% – 100% correct
B = 80% – 90% correct
C = 70% – 79% correct
D = 60% – 69% correct
F = 59% and below correct

Undergraduate students who receive a letter grade of "F" on their challenge examination will need to complete the study guide for the course. Graduate students who receive a letter grade of "D" or "F" will also be sent the study guide.

There is no additional charge for completing the study guide for the course if you do not pass the challenge examination.

Be sure to keep a copy of all work you submit to the university.

Multiple Choice Questions (Enter your answers on the enclosed answer sheet)

Choose the one alternative that best completes the statement or answers the question.
Write the word name for the given number.

1. 22,000,674

a. Twenty-two million, six thousand seventy-four
b. Two million, two thousand, six hundred seventy-four
c. Twenty-two hundred million, six hundred seventy-four
d. Twenty-two million, six hundred seventy-four

2. 2,601,400,070

a. Two hundred sixty million, one hundred forty thousand, seventy
b. Two hundred sixty-one million, four hundred thousand, seven hundred
c. Two billion, six hundred one million, four hundred thousand, seventy
d. Two billion, six hundred one million, forty thousand, seventy

Write each whole number in standard form.

3. Andy collected eighty-two thousand dollars for his campaign.

a. 8200
b. 82,000
c. 80,002
d. 802,000

Add.

4. 7,651 + 3,874 =

a. 11,525
b. 34,636
c. 31,487
d. 12,678

5. 148 + 55 =

a. 226
b. 212
c. 203
d. 213

Solve.

6. A town's population in 1976 was 111,835. By the year 2000 it had increased by 25,952. How many people lived there in 2000?

a. 137,787 people
b. 138,787 people
c. 136,787 people
d. 137,887 people

Subtract.

7. 9699 - 5554 =

a. 9145
b. 4145
c. 4037
d. 4137

Subtract. Use borrowing, if necessary.

8. 83,128 - 58,955 =

a. 24,163
b. 24,123
c. 32,173
d. 24,173

Multiply.

9. $62 \times 9 =$

a. 551
b. 658
c. 548
d. 558

Provide an appropriate response.

10. What is x if $x = 7 \cdot 1 \cdot 5 \cdot 0$?

a. $x = 35$
b. $x = 13$
c. $x = 1$
d. $x = 0$

Simplify.

11. $63 \times 83 - (6 - 4) =$

    a. 286
    b. 300
    c. 2549
    d. 5227

Write using exponential notation.

12. $9 \times 9 \times 9 \times 9$

    a. 94
    b. 9^4
    c. 36
    d. 92

Round as indicated.

13. 7101 to the nearest hundred

    a. 7100
    b. 7110
    c. 7000
    d. 7200

Solve.

14. A store has gross revenues of $6122, $6695, $4363, and $4601 in its first four weeks of business. What was the gross revenue for those four weeks?

    a. $21,881
    b. $21,781
    c. $20,781
    d. $22,331

15. 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?

    a. $14,553
    b. $672
    c. $34
    d. $33

Write the fraction.

16. Of the 157 students at a high school, 35 are sophomores. What fraction of the students are sophomores?

    a. $15\frac{7}{35}$
    b. 35/157
    c. 35/122
    d. 122/35

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

17. (55/65)

    a. (55/65)
    b. (5/13)
    c. (11/13)
    d. (11/5)

Identify if the whole number is prime or composite.

18. 30

    a. Prime
    b. Composite

Write the improper fraction as a mixed or whole number.

19. (252/11)

    a. (11/252)
    b. $252\frac{252}{11}$
    c. $252\frac{11}{252}$
    d. $22\frac{10}{11}$

Reduce the improper fraction.

20. 99/44

    a. 11/4
    b. 9/11
    c. 9/4
    d. 4/11

Change to a mixed number and reduce.

21. (344/20)

a. $17\frac{1}{4}$
b. $17\frac{4}{5}$
c. $17\frac{1}{5}$
d. $17\frac{5}{4}$

Multiply. Write the answer in simplest form.

22. (3/7) × (1/9) =

a. (1/21)
b. (1/4)
c. (7/27)
d. (4/63)

Solve. Write the answer in simplest form.

23. Julie's Cinema received $5460 in movie admission tickets for one day. About (3/13) of this amount was for G-rated movies. Find the amount of money received from G-rated movies.

a. $1260
b. $140
c. $23,660
d. $420

Divide, if possible. Write the answer in simplest form.

24. $5\frac{5}{9} \div 10 =$

a. (6/9)
b. (4/9)
c. (5/8)
d. (5/9)

25. $5\frac{1}{3} \div 4\frac{5}{6} =$

a. $1\frac{3}{29}$
b. $1\frac{3}{28}$
c. $1\frac{4}{29}$
d. $2\frac{3}{29}$

Add or subtract. Simplify the answer.

26. (52/75) - (29/75) =

a. (23/150)
b. $1\frac{2}{25}$
c. (23/75)
d. $20\frac{8}{75}$

Add or subtract. Express the answer as a mixed number.

27. $19\frac{1}{7} + 13\frac{5}{7} + 7\frac{5}{7}$ =

a. $40\frac{4}{7}$
b. $39\frac{4}{7}$
c. 40
d. $41\frac{4}{7}$

28. 14 - (2/9) =

a. $13\frac{7}{9}$
b. $11\frac{7}{9}$
c. $14\frac{7}{9}$
d. 13

Add or subtract.

29. $19\frac{4}{9} + 19\frac{4}{9}$ =

a. $37\frac{8}{9}$
b. $39\frac{8}{9}$
c. $38\frac{8}{9}$
d. $19\frac{8}{9}$

Write the words for the dollar amount as you would on a check.

30. $200.58

a. Two hundred dollars and 58 cents
b. Two hundred and (58/100) dollars
c. Two hundred (58/100) dollars
d. Two hundred dollars and 58

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

31. 0.463 _____ 0.46300

a. >
b. <
c. =

Arrange in order from smallest to largest.

32. 6.09, 6.9, 6.099, 6.999

a. 6.999, 6.9, 6.099, 6.09
b. 6.09, 6.9, 6.099, 6.999
c. 6.099, 6.09, 6.999, 6.9
d. 6.09, 6.099, 6.9, 6.999

Solve.

33. According to his ultra-precise scale, Jeremy gained 3.249 pounds in a three-month period. Round this amount off to the nearest hundredth.

a. 3.2 pounds
b. 3.25 pounds
c. 0.25 pounds
d. 3.26 pounds

Divide.

34. (2.24) divided by 7

a. 1.32
b. 13.2
c. 3.2
d. 0.32

35. (3.9732) divided by 516

a. 0.0077
b. 0.0087
c. 0.78
d. 0.77

36. (163.2186) divided by 2.8 Round to the nearest hundredth.

a. 58.33
b. 58.332
c. 58.29
d. 5.83

Solve.

37. $0.028 \times n = 0.7$

a. 24.8
b. 26
c. 25
d. 0.0196

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

38. $3\frac{17}{20}$

a. $3.8\overline{5}$
b. $3.\overline{855}$
c. $3.\overline{85}$
d. 3.85

Simplify by using the order of operations. Round your answer to the nearest hundredth.

39. $2.9 + (13.9 - 3.8) \cdot 7.2$

a. -38.36
b. 99.18
c. 75.62
d. 93.60

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

40. 51.7 - 5.17

a. estimate: 45
b. estimate: 55
c. estimate: 54
d. estimate: 46

Round as indicated.

41. Round 25.4564 to the nearest hundredth.

a. 25.56
b. 25.36
c. 25.46
d. 25.44

Divide.

42. (0.00786) divided by 0.04

a. 0.201
b. 0.1965
c. 0.1977
d. 0.1974

Write the ratio in lowest terms.

43. 20:14

a. (7/10)
b. (20/14)
c. (14/20)
d. (10/7)

Write the following as a rate in lowest terms.

44. $685 for 20 rolls of film

a. ($137/20 rolls of film)
b. ($685/4 rolls of film)
c. ($5/20 rolls of film)
d. ($137/4 rolls of film)

Write the rate as a unit rate.

45. 8 cents for 4 marbles

a. 2 cents/marble
b. 0.5 cents/marble
c. 12 cents/marbles
d. 32 cents/marble

46. 420 people in 20 buses

a. 210 people/bus
b. 400 people/bus
c. 21 people/bus
d. 0.048 person/bus

Solve using a proportion. Round your answer to the nearest hundredth when necessary.

47. Find which is the better buy (lower cost per ounce) by finding each unit price rounded to three decimal places if necessary.

Jelly:
$1.41 for 6 ounces
$2.35 for 10 ounces

a. $2.35 for 10 ounces
b. $1.41 for 6 ounces
c. Both cost the same per ounce.
d. None of the above.

Write as a proportion.

48. If 60 pounds of potatoes is enough to feed 150 children, then 68 pounds should be the right amount for 170 children.

a. (60 pounds/150 children) = (170 children/68 pounds)
b. (150 children/60 pounds) = (68 pounds/170 children)
c. (60 pounds/150 children) = (68 pounds/170 children)
d. (60 pounds/170 children) = (68 pounds/150 children)

Solve each proportion for the given variable.

49. (n/22) = (6/11)

a. 12
b. $40\frac{1}{3}$
c. 3
d. 24

50. (x/3.9) = (0.08/9) Round to the nearest hundredth.

a. 0.03
b. 438.75
c. 2.81
d. 28.85

Find the value of n. Round to the nearest hundredth if necessary.

51. (1200 revolutions/20 minutes) = (n revolutions/21 minutes)

    a. 1134
    b. 1260
    c. 2.86
    d. 25,200

52. (n pounds/4 kilograms) = (11.35 pounds/5 kilograms)

    a. 8.63
    b. 9.08
    c. 2.84
    d. 9.53

Solve using a proportion. Round your answer to the nearest hundredth when necessary.

53. On an architect's blueprint, 1 inch corresponds to 12 feet. If an exterior wall is 68 feet long, find how long the blueprint measurement should be. Write answer as a mixed number if necessary.

    a. $1\frac{13}{17}$ inches
    b. 51 inches
    c. $5\frac{2}{3}$ inches
    d. 68 inches

Solve.

54. In a survey of 100 people, 8 preferred relish on their hot dogs. What percent preferred relish?

    a. 0.8%
    b. 0.08%
    c. $\frac{2}{25}$%
    d. 8%

Write as a decimal.

55. 0.079%

    a. 0.00079
    b. 7.9
    c. 0.0079
    d. 0.000079

Write the percent as a decimal.

56. In the last election Mr. Thomas received 0.2% of the vote.

a. 0.02
b. 2
c. 0.2
d. 0.002

Write as a fraction or as a mixed number

57. 50%

a. 5
b. ¼
c. ½
d. 1

58. 171$\frac{3}{7}$%

a. 17$\frac{1}{7}$
b. 3$\frac{3}{7}$
c. $\frac{6}{7}$
d. 1$\frac{5}{7}$

Solve. Round decimals to the nearest thousandth and percents to the nearest tenth of a percent.

59. Write the equivalent decimal and percent for (7/12).

a. 0.703;70.3%
b. 0.583;58.3%
c. 0.703;703%
d. 0.583;5.83%

Solve.

60. 37% of what is 74?

a. 0.5
b. 50
c. 2000
d. 200

61. A $210 camera is on sale at 5% off. How much will the camera cost?

    a. $2089.50
    b. $1.05
    c. $199.50
    d. $10.50

62. A stock broker is paid $600 per month plus 2% of the total sales of stocks that she sells. Last month Cora sold $68,000 worth of stock. What was her total income for the month?

    a. $13,600
    b. $1360
    c. $14,200
    d. $1960

63. Raya borrowed $10,000 to finish college at an interest rate of 6.5% per year. How much interest will Raya need to pay next year?

    a. $10,650
    b. $6500
    c. $16,500
    d. $650

Convert. When necessary, round the answer to two decimal places.

64. $2\frac{3}{4}$ pounds = ____ ounces

    a. 52
    b. 44
    c. 32
    d. 45

Solve the problem.

65. Dennis is hosting a dinner party. His recipe calls for 4 ounces of chicken per person. If he is expecting 24 guests, how many pounds of chicken should he buy? Round your answer to two decimal places if necessary.

    a. 1536 pounds
    b. 96 pounds
    c. 6 pounds
    d. 12 pounds

66. A rectangular window is 3 feet 10 inches wide and 6 feet 9 inches tall. If the window needs to be sealed with insulation that costs $1.22 per inch, how much will it cost to insulate the perimeter?

a. $265.96
b. $309.88
c. $26.60
d. $319.15

Change to a convenient unit of measure and add.

67. 53 cm + 9 dm + 19 mm

a. 1449 cm
b. 144.9 cm
c. 243.9 cm
d. 81 cm

Write true or false for the statement.

68. A grown man might weigh 101 kilograms.

a. True
b. False

Perform the conversion. Round to the nearest hundredth when necessary.

69. 33 L to qt

a. 14.98 qt
b. 39.60 qt
c. 31.22 qt
d. 34.88qt

Convert as indicated. When necessary, round to the nearest tenth of a degree.

70. 230° F to degrees Celsius

a. 446° C
b. 145.6° C
c. 110° C
d. 95.8° C

Solve.

71. The flow rate of a safety discharge pipe at a dam is rated for a maximum of 204,000 gallons per hour. Convert this rate to pints per second. Round your answer to the nearest tenth. During a flood, the flow rate at the dam is measured as 428 pints per second. Could the safety discharge pipe safely handle this flow rate?

    a. 226.7 pints per second; no
    b. 214.8 pints per second; no
    c. 566.7 pints per second; yes
    d. 453.3 pints per second; yes

72. Brian and Heather drove 426 miles in 6 hours. What was their average speed in kilometers per hour? (Round your answer to the nearest whole number, if necessary.)

    a. 686 km/hr
    b. 44 km/hr
    c. 114 km/hr
    d. 71 km/hr

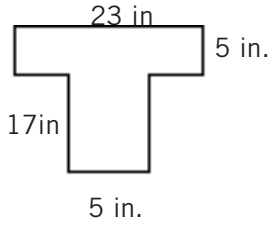
Perform the conversion. Round to the nearest hundredth when necessary.

73. 898 yd = ____ m

    a. 821.13
    b. 2945.44
    c. 978.82
    d. 273.89

Find the perimeter of the shape made up of rectangles and squares.

74.



    a. 90 in.
    b. 72 in.
    c. 45 in.
    d. 200 in.

Find the area of the rectangle or square.

75. Length = 0.53 m, width = 0.24 m

a. 0.2544 m to power of ((2))
b. 0.77 m to power of ((2))
c. 1.54 m to power of ((2))
d. 0.1272 m to power of ((2))

Find the perimeter and area of the rhombus.

76. The height is 8 m and the base is 17 m

a. P = 34 m, A = 68 m to power of ((2))
b. P = 17 m, A = 25 m to power of ((2))
c. P = 68 m, A = 136 m to power of ((2))
d. P = 136 m, A = 68 m to power of ((2))

Find the area of the trapezoid.

77. The height is 5 m and the bases are 7 m and 8 m.

a. 140 m to power of ((2))
b. 75 m to power of ((2))
c. 10 m to power of ((2))
d. 37.5 m to power of ((2))

Find the perimeter of the triangle.

78. An equilateral triangle whose side measures 8 mi

a. 23 mi
b. 32 mi
c. 24 mi
d. 16 mi

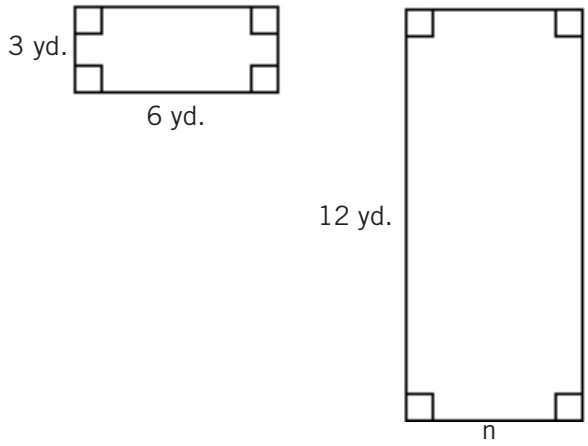
Find the diameter of a circle if the radius has the value given.

79. r = 22 ft

a. 44 ft
b. 1519.76 ft
c. 69.08 ft
d. 11 ft

The pair of figures is similar. Find the missing side n. Round to the nearest tenth when necessary.

80.



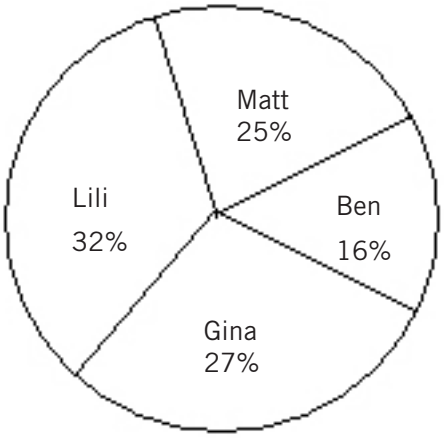
a. n = 1.5 yd
b. n = 24 yd
c. n = 0.5 yd
d. n = 6 yd

Solve.

81. The rectangular part of the field shown below is 160 yd long and the diameter of each semicircle is 12 yd. How much will it cost to fertilize the field at $0.25 per square yard? Use $\pi \approx 3.14$ and round to the nearest cent.

a. $593.04
b. $508.26
c. $268.26
d. $484.71

The circle graph shows the results of the student council presidential election. The complete circular area represents 100% of the votes.



700 total votes

The circle graph shows what percent of the vote each person received.

82. Who got the fewest votes?

a. Matt
b. Lili
c. Ben
d. Gina

Find the grade point average. Round to the nearest tenth when necessary.

83. The grades are given for a student for a particular semester. Find the grade point average. Assume the grade point values are A = 4, B = 3, C = 2, D = 1, and F = 0.

Grade	Credit Hours
B	4
D	3
F	3
D	4
D	4

a. 18
b. 1.3
c. 1.2
d. 3.6

Find the median. Round to the nearest tenth when necessary.

84. The numbers of vehicles passing though a toll booth in one hour for five consecutive hours are as follows: 7, 16, 25, 34, 40

    a. Median = 16 vehicles
    b. Median = 25 vehicles
    c. Median = 34 vehicles
    d. Median = 26.1 vehicles

85. A national safety organization records the number of motor vehicle accidents that take place each year in a certain country. An example of this data is recorded in the following chart. Determine the median number of accidents that occur per year based on this data.

Year	2007	2008	2009	2010
Approximate Number of Accidents	10,800,000	9,800,000	11,100,000	10,400,000

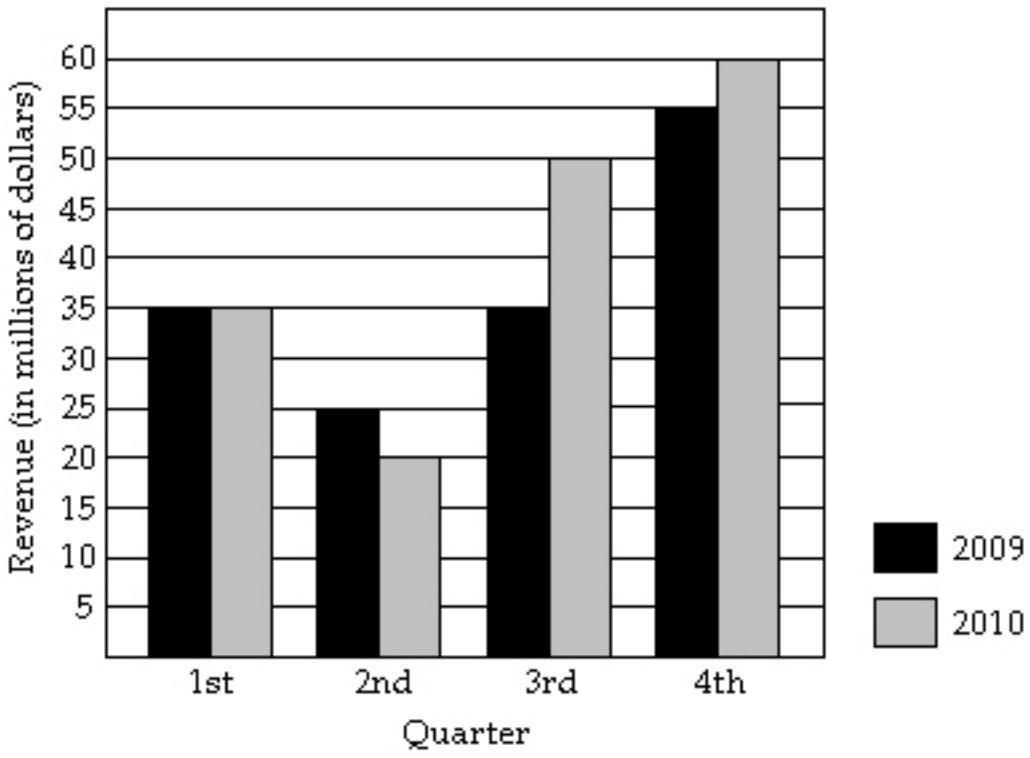
    a. 10,600,000
    b. 10,800,000
    c. 11,600,000
    d. 10,400,000

Find the mode.

86. The last seven computer games sold at the local electronics store cost $20, $33, $46, $33, $49, $33, $49.

    a. The mode is $37.60.
    b. The mode is $46.
    c. The mode is $33.
    d. The mode is $49.

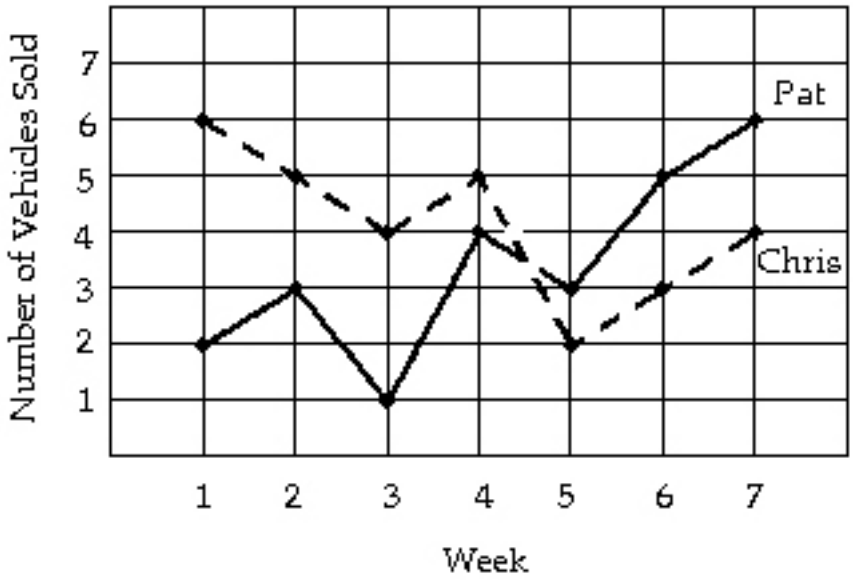
The following double-bar graph illustrates the revenue for a company for the four quarters of the year for two different years. Use the graph to answer the question.



87. How much more revenue was generated from 2009 to 2010 in the fourth quarter?

a. $10,000,000
b. $15,000,000
c. $1,000,000
d. $5,000,000

The following comparison line graph indicates the number of vehicles sold for a seven week period by two different salespeople. Use the graph to answer the question.



88. How many vehicles did Chris sell in the sixth week?

a. 4 vehicles
b. 5 vehicles
c. 2 vehicles
d. 3 vehicles

Add.

89. 21 + (-68)

a. -47
b. 89
c. -89
d. 47

Subtract.

90. (1/4) - (1/6)

a. - (1/12)
b. (1/24)
c. (1/12)
d. - (1/2)

Perform the set of operations, working from left to right.

91. -4 + 20 - 6 - (-18) + (-11)

a. -19
b. 17
c. -25
d. -7

Multiply or divide.

92. (5.04/-9)

a. -5.6
b. -0.56
c. -1.56
d. 5.6

Write in scientific notation.

93. 550,000

a. 5.5 × 10 to power of ((-6))
b. 5.5 × 10 to power of ((6))
c. 5.5 × 10 to power of ((5))
d. 5.5 × 10 to power of ((-5))

Write in standard notation.

94. 6.756 × 10 to power of ((7))

a. 6,756,000
b. 472.92
c. 675,600,000
d. 67,560,000

Solve for the variable.

95. 1.2x = 0.06

a. 0.005
b. 0.0005
c. 0.5
d. 0.05

Solve.

96. -10x - 24 = -15x - 7x

a. 0
b. 2
c. 4
d. -2

97. A hardware store took an inventory of its paint. They had 2.5 times as many gallons of red paint as of blue paint. They had 18 more gallons of yellow paint than red paint. Taken together, the red, yellow and blue paint came to 342 gallons. How many gallons of blue paint were there? Round to the nearest gallon.

a. 14 gallons
b. 54 gallons
c. 90 gallons
d. 86 gallons

98. To trim the edges of a rectangular table cloth, 42 feet of lace are needed. The length of the table cloth is exactly one-half its width. What are the dimensions of the table cloth?

a. length: 14 ft; width: 7 ft
b. length: 14 ft; width: 28 ft
c. length: 7 ft; width: 14 ft
d. length: 3(1/2) ft; width: 7 ft

99. A saleswoman in a leather store earns $2700 per month base pay plus a commission on sales. One month she earns $5612 on sales of $41,600. What percent is her commission?

a. 6%
b. 7.5%
c. 7%
d. 6.5%

Solve for the variable.

100. - (1/2)x = (2/3)

a. - (4/3)
b. 4
c. (4/3)
d. - (3/4)