Name __Applied Algebra__   Date _____

Pre-Course Test

For use before Chapter 1

Give the place value of the underlined digit. Then round the number to that place.

1. 45_6_1.23

2. 8_7_5.43

3. 87._3_44

4. 91.87_56_

Estimate the sum or difference by rounding each number to the place of its leading digit.

5. $1376 + 7602$

6. $54,929 - 23,781$

7. $94,528 - 45,095$

8. $580,349 + 290,111$

Find a low estimate and a high estimate for the product or quotient.

9. 238×87

10. 875×482

11. $6309 \div 53$

12. $4915 \div 86$

Order the numbers from least to greatest.

13. 4.3, 3.4, 4.5, 3.45

14. 0.71, 0.75, 0.7, 0.715

Perform the indicated operation.

15. $4.2 + 1.9$

16. $18.24 + 22.09$

17. $8.6 - 3.45$

18. $8.21 - 5.19$

19. 9.3×0.6

20. 15.2×7.1

21. $1.5 \div 0.3$

22. $18.25 \div 7.3$

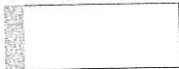**Write the mixed number as an improper fraction.**

23. $5\frac{3}{4}$

24. $6\frac{4}{13}$

Write the improper fraction as a mixed number.

25. $\frac{23}{6}$

26. $\frac{27}{11}$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____

Name _____   Date _____

Pre-Course Test

For use before Chapter 1

Find the sum or difference.

27. $\frac{3}{7} + \frac{2}{7}$ 28. $\frac{6}{17} + \frac{9}{17}$

29. $\frac{17}{21} - \frac{7}{21}$ 30. $\frac{16}{29} - \frac{5}{29}$
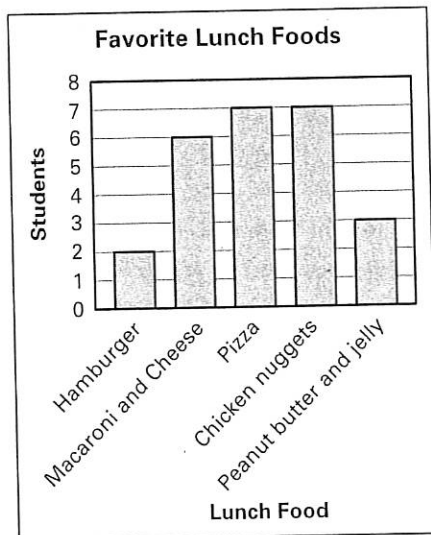
Find the product.

31. $8 \times \frac{3}{4}$ 32. $\frac{5}{6} \times 30$

33. $4 \times \frac{7}{9}$ 34. $\frac{4}{7} \times 9$

In Exercises 35–37, use the bar graph which shows the results of a survey of 25 students about their favorite lunch food.

35. How many students chose chicken nuggets?

36. Which two foods were chosen by the same number of people?

37. How many more students chose macaroni and cheese than chose hamburger?

Favorite Lunch Foods

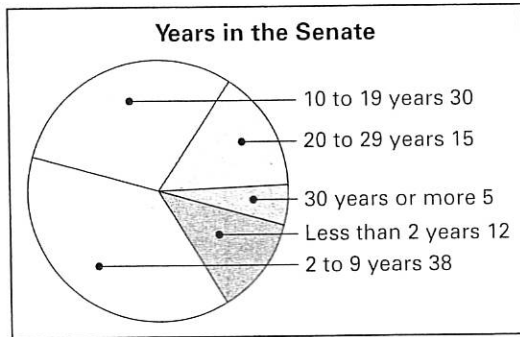**In Exercises 38–40, use the line graph which shows the weight of an Irish wolfhound puppy.**

38. What was the weight of the puppy at 8 months?

39. How old was the puppy when it weighed 60 pounds?

40. Between which two ages was the weight increase the greatest? Between which two months was the weight gain the least?

Puppy Growth

Answers

27. _____

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____

34. _____

35. _____

36. _____

37. _____

38. _____

39. _____

40. _____

Name _____ Date _____
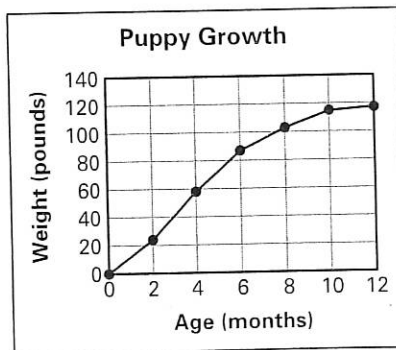
Pre-Course Test

For use before Chapter 1

In Exercise 41–43, use the circle graph which shows the number of years that a senator had worked in the U.S. Senate at the start of the 104th Congress.

Years in the Senate

- 10 to 19 years 30
- 20 to 29 years 15
- 30 years or more 5
- Less than 2 years 12
- 2 to 9 years 38

Answers

41. _____
42. _____
43. _____
44. _____See left._____
45. _____

41. How many senators had worked in the U.S. Senate for 10 to 19 years?

42. How many senators had worked in the U.S. Senate for 20 years or more?

43. How many senators had worked in the U.S. Senate for 9 years or less?

44. Using the set of whole numbers less than 13, draw a Venn diagram showing set A, which consists of numbers that are multiples of 2, and set B, which consists of numbers that are multiples of 3.

45. Use the Venn diagram from Exercise 44 to determine whether the following statement is true or false.

There are exactly two whole numbers less that 13 that are multiples of 2 and 3.

Name_____ Date _____

Pre-Course Test

For use before Chapter 1

46. Draw and label a rectangle with a length of 5 centimeters and a width of 3 centimeters.

47. Find the perimeter of the rectangle in Exercise 46.

Copy and complete the statement.

48. 9 ft = __?__ yd

49. 560 mm = __?__ cm

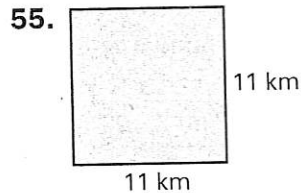**Use a ruler to draw a segment with the given length.**

50. $\frac{5}{8}$ inch

51. 5.3 centimeters
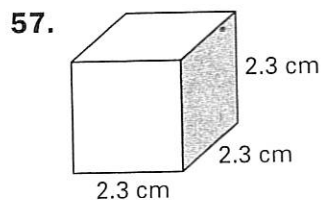
Use a ruler to find the length of the segment in inches and centimeters.

52. _____

53. _____

Find the area of the square.

54.

5 yd

5 yd

55.

11 km

11 km
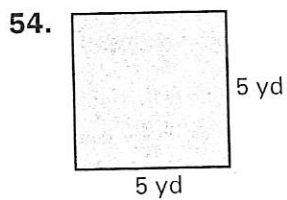
Find the volume of the cube.

56.

13 ft

13 ft

13 ft

57.

2.3 cm

2.3 cm

2.3 cm
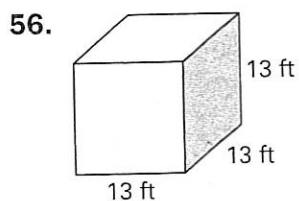
Answers

46. _____ See left. _____

47. _____

48. _____

49. _____

50. _____ See left. _____

51. _____ See left. _____

52. _____

53. _____

54. _____

55. _____

56. _____

57. _____

PRE-ALGEBRA

Continued

Name _____

Date _____

Pre-Course Test

For use before Chapter 1

Copy and complete the statement using <, >, or =.

58. 1.5 tons __?__ 3100 lb

59. 6.7 kg __?__ 6700 g

Find the weight or mass of the object.

60.
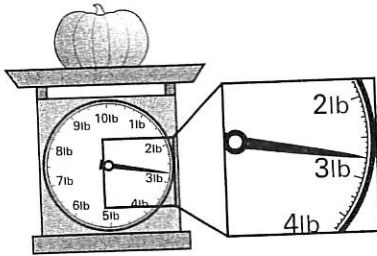
61.
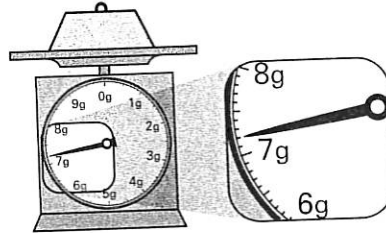
Copy and complete the statement using <, >, or =.

62. 16 fl oz __?__ 2 c

63. 31,150 mL __?__ 3 L

Find the amount of liquid in the measuring cup.

64.
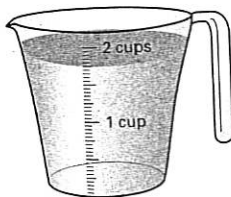
65.
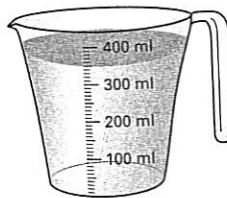
Use a protractor to measure the angle.

66.
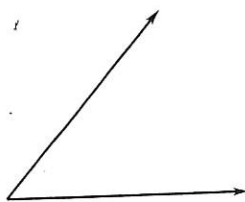
67.
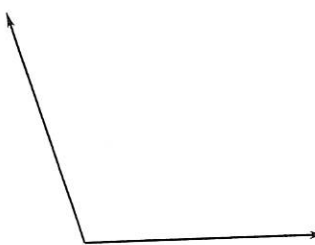
Use a protractor to draw an angle that has the given measure.

68. 168°

69. 22°

Answers

58. _____

59. _____

60. _____

61. _____

62. _____

63. _____

64. _____

65. _____

66. _____

67. _____

68. _____ See left. _____
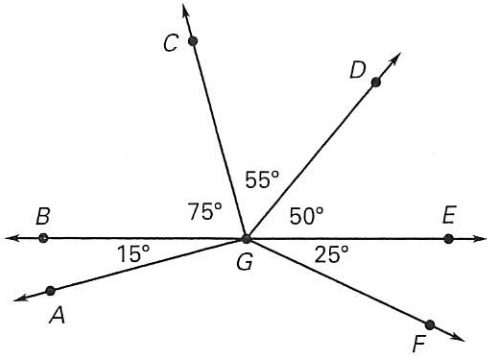
69. _____ See left. _____

Name _____   Date _____

Pre-Course Test

For use before Chapter 1

Find the measure of the angle. Then classify the angle as *acute,* *right, obtuse,* **or** *straight.*

Answers

70. _____

_____

71. _____

_____

72. _____

_____

73. _____

_____

74. _____ See left. _____

75. _____ See left. _____

76. _____ See left. _____

70. $m\angle AGC$ **71.** $m\angle CGF$

72. $m\angle DGF$ **73.** $m\angle BGE$

Use a compass to draw a circle with the given radius.

74. 0.5 inch   **75.** 2 cm

76. Use a straightedge and a compass to draw a segment whose length is the sum of the lengths of the two given segments.

P   Q

R   S
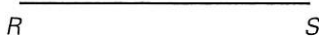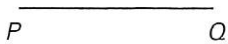
Answers

Pre-Course Test

1. hundreds, 500; 4600 **2.** tens, 70; 880

3. tenths, 0.3; 87.3 **4.** thousandths, 0.005; 91.876 **5.** 9000 **6.** 30,000 **7.** 40,000

8. 900,000 **9–12.** Estimates may vary.

9. 16,000; 27,000 **10.** 320,000; 450,000

11. 100; 130 **12.** 50; 70 **13.** 3.4, 3.45, 4.3, 4.5

14. 0.7, 0.71, 0.715, 0.75 **15.** 6.1 **16.** 40.33

17. 5.15 **18.** 3.02 **19.** 5.58 **20.** 107.92

21. 5 **22.** 2.5 **23.** $\frac{23}{4}$ **24.** $\frac{82}{13}$ **25.** $3\frac{5}{6}$

26. $2\frac{5}{11}$ **27.** $\frac{5}{7}$ **28.** $\frac{15}{17}$ **29.** $\frac{10}{21}$ **30.** $\frac{11}{29}$

31. 6 **32.** 25 **33.** $3\frac{1}{9}$ **34.** $5\frac{1}{7}$

35. 7 students **36.** pizza and chicken nuggets

37. 4 students **38.** about 105 lb

39. 4 months **40.** between 2 months and 4 months; between 10 months and 12 months

41. 30 senators **42.** 20 senators

43. 50 senators

44.

45. true

46.
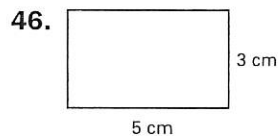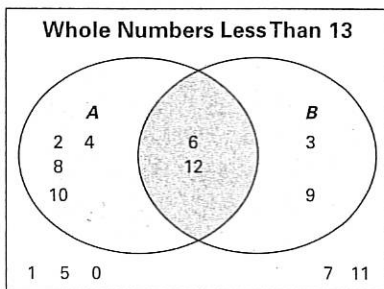
47. 16 cm **48.** 3 yd **49.** 56 cm

50.

$\frac{5}{8}$ in.

51.

5.3 cm

52. $1\frac{1}{2}$ in., 3.8 cm **53.** $2\frac{1}{5}$ in., 5.6 cm

54. 25 yd^2 **55.** 121 km^2 **56.** 2197 ft^3

57. 12.167 cm^3 **58.** < **59.** = **60.** $2\frac{3}{4}$ lb

61. 7.2 g **62.** = **63.** > **64.** $1\frac{3}{4}$ c

65. 350 mL **66.** 50° **67.** 107°

68.

168°

69.

22°
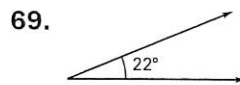
70. 90°; right **71.** 130°; obtuse **72.** 75°; acute

73. 180°; straight

74.

0.5 in.

75.

2 cm

76.

2.5 in.