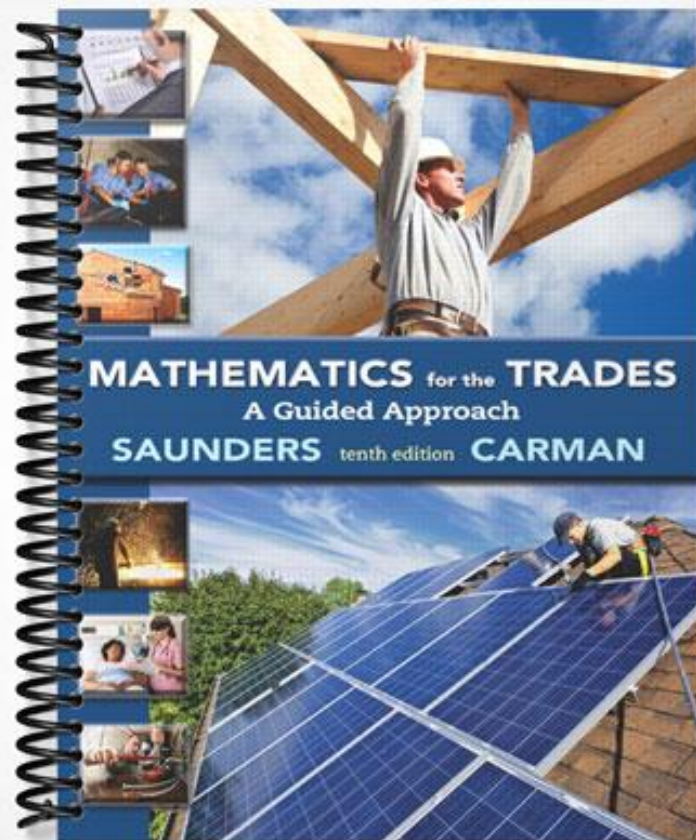


# TEST BANK



**MATHEMATICS** for the **TRADES**  
A Guided Approach  
**SAUNDERS** tenth edition **CARMAN**

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

1) Write as an improper fraction.

1) \_\_\_\_\_

$$5\frac{7}{8}$$

A)  $\frac{8}{47}$

B)  $\frac{40}{8}$

C)  $\frac{280}{8}$

D)  $\frac{47}{8}$

2) Write as an improper fraction.

2) \_\_\_\_\_

$$3\frac{1}{5}$$

A)  $\frac{16}{5}$

B)  $\frac{5}{16}$

C)  $\frac{15}{5}$

D)  $\frac{5}{15}$

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

3) Write as an improper fraction.

3) \_\_\_\_\_

$$3\frac{1}{5}$$

4) Write as an improper fraction.

4) \_\_\_\_\_

$$5\frac{5}{8}$$

5) Write as an improper fraction.

5) \_\_\_\_\_

$$4\frac{4}{9}$$

6) Write as an improper fraction.

6) \_\_\_\_\_

$$6$$

7) Write as an improper fraction.

7) \_\_\_\_\_

$$2\frac{5}{12}$$

8) Write as an improper fraction.

8) \_\_\_\_\_

$$12\frac{13}{32}$$

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

9) Write as a mixed number.

9) \_\_\_\_\_

$$\frac{65}{9}$$

A)  $17\frac{9}{2}$

B)  $7\frac{9}{2}$

C)  $7\frac{2}{9}$

D)  $17\frac{2}{9}$

10) Write as a mixed number.

$$\frac{53}{6}$$

10) \_\_\_\_\_

A)  $6\frac{5}{6}$

B)  $8\frac{5}{6}$

C)  $8\frac{6}{5}$

D)  $6\frac{6}{5}$

11) Write the following fraction in lowest terms.

$$\frac{9}{15}$$

11) \_\_\_\_\_

A)  $\frac{5}{3}$

B)  $\frac{3}{5}$

C)  $\frac{9}{5}$

D)  $\frac{3}{15}$

12) Write the following fraction in lowest terms.

$$\frac{96}{132}$$

12) \_\_\_\_\_

A)  $\frac{8}{11}$

B)  $\frac{11}{8}$

C)  $\frac{16}{11}$

D)  $\frac{8}{22}$

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

13) Write as a mixed number in lowest terms.

$$\frac{4}{3}$$

13) \_\_\_\_\_

14) Write as a mixed number in lowest terms.

$$\frac{38}{8}$$

14) \_\_\_\_\_

15) Write as a mixed number in lowest terms.

$$\frac{23}{2}$$

15) \_\_\_\_\_

16) Write as a mixed number in lowest terms.

$$\frac{98}{16}$$

16) \_\_\_\_\_

17) Write as a mixed number in lowest terms.

$$\frac{84}{13}$$

17) \_\_\_\_\_

18) Reduce to lowest terms.

$$\frac{14}{20}$$

18) \_\_\_\_\_

19) Reduce to lowest terms.

$$\frac{39}{13}$$

19) \_\_\_\_\_

20) Reduce to lowest terms.

$$5\frac{20}{32}$$

20) \_\_\_\_\_

21) Reduce to lowest terms.

$$\frac{45}{27}$$

21) \_\_\_\_\_

22) Reduce to lowest terms.

$$\frac{20}{45}$$

22) \_\_\_\_\_

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

23) Complete the fraction.

$$\frac{5}{12} = \frac{?}{48}$$

23) \_\_\_\_\_

A) 30

B) 25

C) 15

D) 20

24) Complete the fraction.

$$\frac{3}{16} = \frac{?}{144}$$

24) \_\_\_\_\_

A) 30

B) 24

C) 33

D) 27

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

25)  $\frac{60}{45} = \frac{?}{15}$

25) \_\_\_\_\_

26)  $\frac{9}{3} = \frac{?}{12}$

26) \_\_\_\_\_

27)  $1\frac{10}{12} = \frac{?}{6}$

27) \_\_\_\_\_

28)  $5 = \frac{?}{4}$

28) \_\_\_\_\_

29)  $2\frac{6}{8} = \frac{?}{24}$

29) \_\_\_\_\_

30)  $12\frac{5}{16} = \frac{?}{32}$

30) \_\_\_\_\_

31) Choose the larger number.

$$\frac{3}{4} \text{ or } \frac{3}{8}$$

31) \_\_\_\_\_

- 32) Choose the larger number. 32) \_\_\_\_\_  
 $2\frac{4}{5}$  or  $\frac{30}{10}$
- 33) Choose the larger number. 33) \_\_\_\_\_  
 $\frac{5}{16}$  or  $\frac{24}{80}$
- 34) Choose the larger number. 34) \_\_\_\_\_  
 $\frac{3}{8}$  or  $\frac{1}{4}$
- 35) Choose the larger number. 35) \_\_\_\_\_  
 $1\frac{3}{16}$  or  $2\frac{1}{2}$
- 36) Choose the larger number. 36) \_\_\_\_\_  
 $\frac{12}{5}$  or  $2\frac{7}{17}$
- 37) 37) \_\_\_\_\_

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

- 38) Multiply and write the answer in lowest terms. 38) \_\_\_\_\_  
 $\frac{3}{4} \times \frac{5}{6} \times \frac{2}{3} =$   
 A)  $\frac{5}{12}$                       B)  $\frac{10}{24}$                       C)  $\frac{15}{18}$                       D)  $\frac{30}{48}$
- 39) Multiply and write the answer in lowest terms. 39) \_\_\_\_\_  
 $6\frac{1}{4} \times 3\frac{1}{5} =$   
 A)  $\frac{1}{20}$                       B) 20                      C)  $\frac{5}{6}$                       D)  $18\frac{1}{20}$

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

- 40) Write the product in lowest terms. 40) \_\_\_\_\_  
 $\frac{7}{8} \times \frac{1}{3} =$
- 41) Write the product in lowest terms. 41) \_\_\_\_\_  
 $5 \times \frac{3}{25} =$

42) Write the product in lowest terms.

$$\frac{2}{9} \times \frac{6}{16} =$$

42) \_\_\_\_\_

43) Write the product in lowest terms.

$$\frac{3}{7} \times \frac{5}{8} =$$

43) \_\_\_\_\_

44) Write the product in lowest terms.

$$\frac{4}{5} \times 6 =$$

44) \_\_\_\_\_

45) Write the product in lowest terms.

$$5\frac{1}{2} \times \frac{2}{3} =$$

45) \_\_\_\_\_

46) Write the product in lowest terms.

$$6\frac{1}{8} \times 9\frac{1}{7} =$$

46) \_\_\_\_\_

47) Write the product in lowest terms.

$$8\frac{1}{3} \times 3 =$$

47) \_\_\_\_\_

48) Write the product in lowest terms.

$$3\frac{3}{4} \times \frac{2}{5} =$$

48) \_\_\_\_\_

49) Write the product in lowest terms.

$$1\frac{5}{9} \times \frac{2}{3} \times \frac{3}{7} =$$

49) \_\_\_\_\_

50) Write the product in lowest terms.

$$\frac{4}{7} \times 3 \times \frac{7}{4} =$$

50) \_\_\_\_\_

51) Write the product in lowest terms.

$$\frac{5}{18} \times 5\frac{2}{5} =$$

51) \_\_\_\_\_

52) Write the product in lowest terms.

$$7 \times 3\frac{1}{2} =$$

52) \_\_\_\_\_

53) Write the product in lowest terms.

$$\frac{49}{3} \times \frac{4}{14} =$$

53) \_\_\_\_\_

54) Write the product in lowest terms.

$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} =$$

54) \_\_\_\_\_

55) Write the product in lowest terms.

$$2\frac{3}{4} \times 5\frac{5}{8} =$$

55) \_\_\_\_\_

56) A carpenter has two boards. The first is  $13\frac{1}{2}$  ft long. The second is  $\frac{1}{3}$  the length of the first. How long is the second board?

56) \_\_\_\_\_

57) A car averages 30 miles per gallon of gas. If its gas tank holds  $12\frac{1}{2}$  gallons of gas, how far will the car travel on a full tank of gas?

57) \_\_\_\_\_

58) An electrician uses 16 lengths of wire that are  $5\frac{5}{8}$  in. each. What is the total length of wire used?

58) \_\_\_\_\_

59) A painter used  $5\frac{1}{3}$  cans of paint. Each can held  $3\frac{1}{2}$  quarts. How much paint did he use?

59) \_\_\_\_\_

60) A 20-gallon drum of oil leaked  $\frac{3}{5}$  of its contents. How many gallons remained in the drum?

60) \_\_\_\_\_

61) An oil tank holds 280 gallons of oil. On March 1st, the gauge showed it to be  $\frac{7}{8}$  full. At the end of the month, the tank was  $\frac{1}{4}$  full. How much oil was used in March?

61) \_\_\_\_\_

62) How many 38 in. boards can be cut from eight  $2 \times 4$  boards that are each 10 ft long?

62) \_\_\_\_\_

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

63) Divide and write the answer in lowest terms.

$$\frac{21}{5} \div \frac{28}{15} =$$

63) \_\_\_\_\_

A) 6

B)  $\frac{4}{9}$

C)  $\frac{9}{4}$

D)  $2\frac{3}{4}$

64) Divide and write the answer in lowest terms.

$$4\frac{3}{4} \div 6\frac{1}{3} =$$

64) \_\_\_\_\_

A)  $\frac{1}{12}$

B) 12

C)  $\frac{3}{4}$

D)  $\frac{4}{3}$

65) Divide and write the answer in lowest terms.

65) \_\_\_\_\_

$$48 \div \frac{16}{5} =$$

A)  $\frac{5}{3}$

B) 20

C)  $\frac{3}{5}$

D) 15

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

66) Write the answer in lowest terms.

66) \_\_\_\_\_

$$\frac{1}{2} \div \frac{1}{3} =$$

67) Write the answer in lowest terms.

67) \_\_\_\_\_

$$\frac{3}{5} \div 7 =$$

68) Write the answer in lowest terms.

68) \_\_\_\_\_

$$\frac{1}{4} \div 2\frac{2}{3} =$$

69) Write the answer in lowest terms.

69) \_\_\_\_\_

$$2\frac{1}{10} \div \frac{8}{5} =$$

70) Write the answer in lowest terms.

70) \_\_\_\_\_

$$\frac{1}{12} \div \frac{1}{18} =$$

71) Write the answer in lowest terms.

71) \_\_\_\_\_

$$\frac{5}{8} \div \frac{8}{9} =$$

72) Write the answer in lowest terms.

72) \_\_\_\_\_

$$1\frac{1}{6} \div 1\frac{2}{3} =$$

73) Write the answer in lowest terms.

73) \_\_\_\_\_

$$4 \div \frac{8}{13} =$$

74) Write the answer in lowest terms.

74) \_\_\_\_\_

$$10\frac{1}{8} \div \frac{1}{4} =$$

75) Write the answer in lowest terms.

75) \_\_\_\_\_

$$\frac{5}{16} \div \frac{3}{4} =$$



76) Write the answer in lowest terms.

$$6 \div \frac{1}{2} =$$

76) \_\_\_\_\_

77) Write the answer in lowest terms.

$$\frac{7}{12} \div 2\frac{1}{4} =$$

77) \_\_\_\_\_

78) Write the answer in lowest terms.

$$\frac{7}{8} \div 14 =$$

78) \_\_\_\_\_

79) Write the answer in lowest terms.

$$56 \div 4\frac{3}{8} =$$

79) \_\_\_\_\_

80) Write the answer in lowest terms.

$$\frac{3}{8} \div \frac{3}{8} =$$

80) \_\_\_\_\_

81) Write the answer in lowest terms.

$$\frac{13}{16} \div \frac{5}{8} =$$

81) \_\_\_\_\_

82) Write the answer in lowest terms.

$$4\frac{3}{5} \div 2\frac{5}{9} =$$

82) \_\_\_\_\_

83) How many feet are represented by a  $4\frac{1}{2}$  in. line if it is drawn to a scale of  $\frac{1}{4}$  in. = 1 ft?

83) \_\_\_\_\_

84) How many lengths of pipe  $1\frac{1}{8}$  ft long can be cut from a pipe that is 45 ft long?

84) \_\_\_\_\_

85) On a house plan, the floor area of a room measures  $4\frac{1}{4}$  in. by  $3\frac{3}{8}$  in. If  $\frac{1}{4}$  in. is equal to 1 ft on the drawing, what are the actual dimensions of the room?

85) \_\_\_\_\_

86) How many pieces of  $4\frac{1}{2}$  in. plywood are needed to make a fence that is 36 ft long? (Hint: 12 in. = 1 ft)

86) \_\_\_\_\_

87) How many  $5\frac{1}{3}$  in. risers are in a flight of stairs  $6\frac{2}{3}$  ft high?

87) \_\_\_\_\_

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

88) Add or subtract and write the answer in lowest terms.

88) \_\_\_\_\_

$$\frac{7}{32} + \frac{5}{32} + \frac{8}{32} =$$

A)  $\frac{5}{8}$

B)  $\frac{20}{32}$

C)  $\frac{20}{96}$

D)  $\frac{8}{5}$

89) Add or subtract and write the answer in lowest terms.

89) \_\_\_\_\_

$$\frac{8}{9} - \frac{7}{15} =$$

A)  $\frac{19}{45}$

B)  $\frac{15}{23}$

C)  $\frac{45}{19}$

D)  $\frac{1}{6}$

90) Add or subtract and write the answer in lowest terms.

90) \_\_\_\_\_

$$19\frac{2}{3} - 11\frac{3}{4} =$$

A)  $7\frac{11}{12}$

B)  $8\frac{1}{12}$

C)  $17\frac{1}{12}$

D)  $8\frac{1}{3}$

91) Add or subtract and write the answer in lowest terms.

91) \_\_\_\_\_

$$25\frac{7}{8} + 7\frac{1}{4} =$$

A)  $33\frac{1}{8}$

B)  $18\frac{6}{4}$

C)  $32\frac{7}{8}$

D)  $32\frac{8}{12}$

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

92) Write the answer in lowest terms.

92) \_\_\_\_\_

$$\frac{1}{8} + \frac{5}{8} =$$

93) Write the answer in lowest terms.

93) \_\_\_\_\_

$$\frac{5}{14} + \frac{9}{14} + \frac{3}{14} =$$

94) Write the answer in lowest terms.

94) \_\_\_\_\_

$$5\frac{7}{12} + 39\frac{1}{2} =$$

95) Write the answer in lowest terms.

95) \_\_\_\_\_

$$7\frac{5}{6} + 5\frac{3}{8} + 4\frac{1}{4} =$$

96) Write the answer in lowest terms.

96) \_\_\_\_\_

$$1\frac{1}{6} + 6\frac{1}{2} + 3\frac{1}{3} =$$

97) Write the answer in lowest terms.

$$\frac{1}{2} + \frac{1}{4} + \frac{2}{3} + \frac{1}{6} =$$

97) \_\_\_\_\_

98) Write the answer in lowest terms.

$$10\frac{1}{2} + 2\frac{7}{15} + 7\frac{2}{3} =$$

98) \_\_\_\_\_

99) Write the answer in lowest terms.

$$4\frac{1}{3} + 4\frac{5}{6} + 2\frac{1}{2} =$$

99) \_\_\_\_\_

100) Write the answer in lowest terms.

$$6\frac{7}{12} + 2\frac{2}{3} =$$

100) \_\_\_\_\_

101)  $4\frac{1}{4} + 6\frac{5}{16} =$

101) \_\_\_\_\_

102)  $3\frac{5}{12} + 4\frac{3}{8} - 2\frac{5}{6} =$

102) \_\_\_\_\_

103) Write the answer in lowest terms.

$$\frac{7}{8} - \frac{1}{2} =$$

103) \_\_\_\_\_

104) Write the answer in lowest terms.

$$19\frac{1}{4} - 8\frac{2}{3} =$$

104) \_\_\_\_\_

105) Write the answer in lowest terms.

$$10\frac{1}{2} - 6\frac{3}{4} =$$

105) \_\_\_\_\_

106) Write the answer in lowest terms.

$$23 - 12\frac{3}{8} =$$

106) \_\_\_\_\_

107) Write the answer in lowest terms.

$$6\frac{1}{6} - 4\frac{2}{6} =$$

107) \_\_\_\_\_

108) Write the answer in lowest terms.

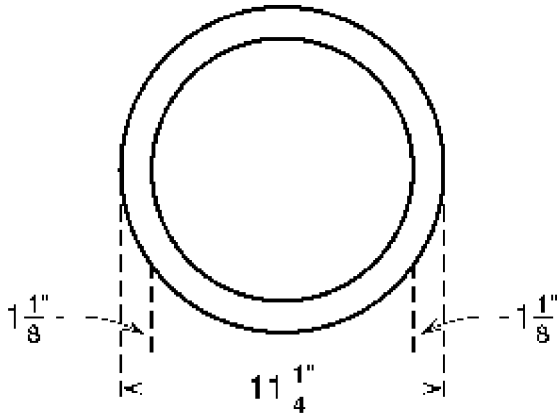
$$3\frac{1}{3} - 2\frac{1}{7} =$$

108) \_\_\_\_\_

- 109) Write the answer in lowest terms. 109) \_\_\_\_\_  
 $2\frac{1}{3} - 1\frac{1}{2} =$
- 110) Write the answer in lowest terms. 110) \_\_\_\_\_  
 $3\frac{1}{5} - 2\frac{5}{6} =$
- 111) Write the answer in lowest terms. 111) \_\_\_\_\_  
 $6\frac{1}{2} - 2\frac{3}{5} =$
- 112) Write the answer in lowest terms. 112) \_\_\_\_\_  
 $5\frac{2}{3} - 3\frac{1}{4} =$
- 113)  $34\frac{5}{6} - 17\frac{3}{4} =$  113) \_\_\_\_\_
- 114) How long a bolt is needed to go through tubing  $\frac{5}{8}$  in. long, a washer  $\frac{1}{16}$  in. thick, and a nut  $\frac{3}{16}$  in. thick? Reduce the answer to lowest terms. 114) \_\_\_\_\_
- 115) A carpenter needs the following lengths of a 2×4 in. redwood:  $5\frac{1}{2}$  ft,  $7\frac{3}{4}$  ft,  $9\frac{5}{8}$  ft, and 10 ft. How many feet of redwood should he order? Reduce the answer to lowest terms. 115) \_\_\_\_\_
- 116) A bureau that is 64 in. high has a  $3\frac{1}{2}$  in. base and a  $2\frac{1}{4}$  in. top. How much room is left for drawers? 116) \_\_\_\_\_

117) A cement pipe has an outside diameter of  $11\frac{1}{4}$  in. and a wall thickness of  $1\frac{1}{8}$  in. What is the inside diameter of the pipe?

117) \_\_\_\_\_



118) If an I-beam is to be  $20\frac{5}{8}$  in. with a tolerance of  $\pm\frac{3}{4}$  in., find the longest and shortest acceptable lengths.

118) \_\_\_\_\_

# Answer Key

Testname: UNTITLED2

1) D

2) A

3)  $\frac{16}{5}$

4)  $\frac{45}{8}$

5)  $\frac{40}{9}$

6)  $\frac{6}{1}$

7)  $\frac{29}{12}$

8)  $\frac{397}{32}$

9) C

10) B

11) B

12) A

13)  $1\frac{1}{3}$

14)  $4\frac{3}{4}$

15)  $11\frac{1}{2}$

16)  $6\frac{1}{8}$

17)  $6\frac{6}{13}$

18)  $\frac{7}{10}$

19) 3

20)  $5\frac{5}{8}$

21)  $1\frac{2}{3}$  or  $\frac{5}{3}$

22)  $\frac{4}{9}$

23) D

24) D

25)  $\frac{20}{15}$

26)  $\frac{36}{12}$

27)  $\frac{11}{6}$

# Answer Key

Testname: UNTITLED2

28)  $\frac{20}{4}$

29) 66

30) 394

31)  $\frac{3}{4}$

32)  $\frac{30}{10}$

33)  $\frac{5}{16}$

34)  $\frac{3}{8}$

35)  $1\frac{3}{16}$

36)  $2\frac{7}{17}$

37)

38) A

39) B

40)  $\frac{7}{24}$

41)  $\frac{3}{5}$

42)  $\frac{1}{12}$

43)  $\frac{15}{56}$

44)  $4\frac{4}{5}$

45)  $3\frac{2}{3}$

46) 56

47) 25

48)  $1\frac{1}{2}$

49)  $\frac{4}{9}$

50) 3

51)  $1\frac{1}{2}$

52)  $24\frac{1}{2}$

53)  $4\frac{2}{3}$

## Answer Key

Testname: UNTITLED2

54)  $\frac{1}{8}$

55)  $15\frac{15}{32}$

56)  $4\frac{1}{2}$  ft

57) 375 miles

58) 90 in.

59)  $18\frac{2}{3}$  quarts

60) 8 gallons

61) 175 gallons

62) 25 boards

63) C

64) C

65) D

66)  $1\frac{1}{2}$

67)  $\frac{3}{35}$

68)  $\frac{3}{32}$

69)  $1\frac{5}{16}$

70)  $1\frac{1}{2}$

71)  $\frac{45}{64}$

72)  $\frac{7}{10}$

73)  $6\frac{1}{2}$

74)  $40\frac{1}{2}$

75)  $\frac{5}{12}$

76) 12

77)  $\frac{7}{27}$

78)  $\frac{1}{16}$

79)  $12\frac{4}{5}$

80) 1

81)  $1\frac{3}{10}$



## Answer Key

Testname: UNTITLED2

82)  $1\frac{4}{5}$

83) 18 ft

84) 40 lengths

85) 17 ft by  $13\frac{1}{2}$  ft

86) 96 pieces

87) 15 risers

88) A

89) A

90) A

91) A

92)  $\frac{3}{4}$

93)  $1\frac{3}{14}$

94)  $45\frac{1}{2}$

95)  $17\frac{11}{24}$

96) 11

97)  $1\frac{7}{12}$

98)  $20\frac{19}{30}$

99)  $11\frac{2}{3}$

100)  $9\frac{1}{4}$

101)  $10\frac{9}{16}$

102)  $\frac{2}{3}$

103)  $\frac{3}{8}$

104)  $10\frac{7}{12}$

105)  $3\frac{3}{4}$

106)  $10\frac{5}{8}$

107)  $1\frac{5}{6}$

108)  $1\frac{4}{21}$

## Answer Key

Testname: UNTITLED2

109)  $\frac{5}{6}$

110)  $\frac{11}{30}$

111)  $3\frac{9}{10}$

112)  $2\frac{5}{12}$

113)  $17\frac{1}{2}$

114)  $\frac{7}{8}$  in.

115)  $32\frac{7}{8}$  ft

116)  $58\frac{1}{4}$  in.

117) 9 in.

118) Longest =  $21\frac{3}{8}$  in.

Shortest =  $19\frac{7}{8}$  in.