Test Bank for University Calculus Early Transcendentals 4th Hass

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

Identify the number as prime, composite, or neither.

1) 110
A) Prime B) Neither C) Composite
Answer: C

2) 196
A) Neither B) Prime C) Composite
Answer: C

3) 59
A) Composite B) Prime C) Neither
Answer: B

4) 84
A) Neither B) Composite C) Prime
Answer: B

5) 429
A) Neither B) Prime C) Composite
Answer: C

6) 126
A) Prime B) Composite C) Neither
Answer: B

7) 101
A) Composite B) Neither C) Prime
Answer: C

8) 1
A) Composite B) Neither C) Prime
Answer: B

9) 3
A) Composite B) Neither C) Prime
Answer: C

10) 0
A) Prime B) Neither C) Composite
Answer: B

If the following number is a composite number, write it as a product of prime factors. Otherwise, identify it as prime.

11) 45
A) $3 \cdot 3 \cdot 5$ B) $9 \cdot 3$ C) $9 \cdot 5$ D) $5 \cdot 5$
Answer: A

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12) 700

A) $5 \cdot 5 \cdot 5 \cdot 5 \cdot 7$ B) $2 \cdot 2 \cdot 2 \cdot 2 \cdot 7$ C) $2 \cdot 2 \cdot 5 \cdot 5 \cdot 7$ D) $2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 7$

Answer: C

13) 2200

A) $2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 \cdot 11$ B) $2 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 11$

C) $2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 11$ D) $2 \cdot 2 \cdot 2 \cdot 5 \cdot 5 \cdot 5 \cdot 11$

Answer: C

14) 66

A) $2 \cdot 2 \cdot 11$ B) $6 \cdot 11$ C) $2 \cdot 3 \cdot 11$ D) $3 \cdot 3 \cdot 2$

Answer: C

15) 90

A) $2 \cdot 3 \cdot 3 \cdot 5$ B) $2 \cdot 2 \cdot 3 \cdot 3 \cdot 5$ C) $2 \cdot 3 \cdot 5$ D) $10 \cdot 3 \cdot 3$

Answer: A

16) 158

A) $2 \cdot 79$ B) $2 \cdot 2$ C) $2 \cdot 77$ D) $2 \cdot 2 \cdot 79$

Answer: A

17) 310

A) $2 \cdot 5 \cdot 31$ B) $10 \cdot 31$ C) $5 \cdot 5 \cdot 31$ D) $2 \cdot 2 \cdot 31$

Answer: A

18) 223

A) $111 \cdot 223$ B) Prime C) $223 \cdot 1$ D) $112 \cdot 2$

Answer: B

Write the fraction in lowest terms.

19) $\frac{10}{14}$

A) $\frac{13}{9}$ B) $\frac{5}{7}$ C) $\frac{7}{5}$ D) $\frac{11}{15}$

Answer: B

20) $\frac{40}{42}$

A) $\frac{20}{21}$ B) $\frac{21}{20}$ C) $\frac{41}{39}$ D) $\frac{40}{42}$

Answer: A

21) $\frac{12}{104}$

A) $\frac{13}{105}$ B) $\frac{3}{26}$ C) $\frac{103}{11}$ D) $\frac{26}{3}$

Answer: B

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22) $\frac{215}{300}$

A) $\frac{299}{214}$ B) $\frac{60}{43}$ C) $\frac{216}{301}$ D) $\frac{43}{60}$

Answer: D

23) $\frac{52}{960}$

A) $\frac{13}{240}$ B) $\frac{53}{961}$ C) $\frac{959}{51}$ D) $\frac{240}{13}$

Answer: A

24) $\frac{280}{500}$

A) $\frac{14}{25}$ B) $\frac{25}{14}$ C) $\frac{499}{279}$ D) $\frac{281}{501}$

Answer: A

25) $\frac{60}{18}$

A) $\frac{10}{3}$ B) $\frac{3}{10}$ C) 2 D) $\frac{60}{18}$

Answer: A

Write the improper fraction as a mixed number.

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

A) $\frac{1}{3}$ B) $4\frac{1}{7}$ C) $5\frac{1}{3}$ D) $6\frac{1}{3}$

Answer: C

27) $\frac{21}{5}$

A) $3\frac{1}{5}$ B) $4\frac{1}{5}$ C) $5\frac{1}{5}$ D) $4\frac{1}{7}$

Answer: B

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

A) $6\frac{1}{3}$ B) $4\frac{1}{3}$ C) $5\frac{1}{3}$ D) $5\frac{1}{7}$

Answer: C

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29) $\frac{17}{3}$

A) $51\frac{17}{3}$ B) $\frac{3}{17}$ C) $5\frac{2}{3}$ D) $51\frac{3}{17}$

Answer: C

30) $\frac{226}{9}$

A) $226\frac{9}{226}$ B) $226\frac{226}{9}$ C) $\frac{9}{226}$ D) $25\frac{1}{9}$

Answer: D

31) $\frac{37}{11}$

A) $3\frac{3}{11}$ B) $3\frac{4}{11}$ C) $4\frac{3}{11}$ D) $4\frac{2}{11}$

Answer: B

32) $\frac{43}{12}$

A) $12\frac{1}{12}$ B) $7\frac{7}{12}$ C) $3\frac{7}{12}$ D) $7\frac{1}{12}$

Answer: C

Write the mixed number as an improper fraction.

33) $3\frac{8}{9}$

A) $\frac{27}{8}$ B) $\frac{27}{9}$ C) $\frac{35}{8}$ D) $\frac{35}{9}$

Answer: D

34) $2\frac{5}{7}$

A) $\frac{14}{7}$ B) $\frac{19}{5}$ C) $\frac{19}{7}$ D) $\frac{14}{5}$

Answer: C

35) $2\frac{5}{8}$

A) $\frac{21}{5}$ B) $\frac{21}{8}$ C) $\frac{16}{5}$ D) $\frac{16}{8}$

Answer: B

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36) $3\frac{2}{5}$

A) $\frac{15}{5}$ B) $\frac{15}{2}$ C) $\frac{17}{2}$ D) $\frac{17}{5}$

Answer: D

37) $18\frac{1}{10}$

A) $\frac{19}{10}$ B) $\frac{191}{10}$ C) $\frac{181}{10}$ D) $\frac{18}{10}$

Answer: C

Perform the operation. Write the answer as a fraction in lowest terms.

38) $\frac{8}{9} \cdot \frac{1}{4}$

A) $\frac{1}{4}$ B) $\frac{2}{9}$ C) $\frac{9}{32}$ D) $\frac{9}{13}$

Answer: B

39) $\frac{3}{7} \cdot \frac{4}{9}$

A) $\frac{7}{16}$ B) $\frac{1}{21}$ C) $\frac{28}{27}$ D) $\frac{4}{21}$

Answer: D

40) $\frac{2}{9} \cdot \frac{14}{17}$

A) $\frac{2}{153}$ B) $\frac{63}{17}$ C) $\frac{8}{13}$ D) $\frac{28}{153}$

Answer: D

41) $\frac{21}{26} \cdot \frac{9}{13}$

A) $\frac{189}{338}$ B) $\frac{6}{7}$ C) $\frac{21}{676}$ D) $\frac{3}{4}$

Answer: A

42) $\frac{17}{21} \cdot \frac{17}{21}$

A) $\frac{17}{441}$ B) 1 C) $\frac{289}{441}$ D) $\frac{17}{21}$

Answer: C

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43) $1\frac{1}{7} \cdot \frac{11}{27}$

A) $\frac{8}{189}$ B) $\frac{88}{189}$ C) $\frac{19}{34}$ D) $\frac{77}{216}$

Answer: B

44) $1\frac{1}{7} \cdot 2\frac{1}{13}$

A) $\frac{189}{104}$ B) $\frac{216}{91}$ C) $\frac{7}{4}$ D) $\frac{8}{91}$

Answer: B

45) $6 \cdot 1\frac{5}{6}$

A) 11 B) $\frac{28}{13}$ C) $\frac{1}{2}$ D) $\frac{47}{6}$

Answer: A

46) $3\frac{9}{11} \cdot 4\frac{2}{5}$

A) $\frac{121}{105}$ B) $\frac{86}{21}$ C) $\frac{21}{55}$ D) $\frac{84}{5}$

Answer: D

47) $\frac{1}{2} \div \frac{1}{4}$

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

Answer: D

48) $\frac{2}{3} \div \frac{6}{13}$

A) $\frac{13}{9}$ B) $\frac{1}{9}$ C) $\frac{4}{13}$ D) $\frac{10}{19}$

Answer: A

49) $\frac{2}{3} \div 1\frac{5}{12}$

A) $\frac{17}{18}$ B) $\frac{8}{17}$ C) $\frac{2}{51}$ D) $\frac{29}{30}$

Answer: B

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50) $2\frac{1}{2} \div 1\frac{3}{8}$

A) $\frac{5}{22}$ B) $\frac{55}{16}$ C) $\frac{20}{11}$ D) $\frac{31}{16}$

Answer: C

51) $2\frac{1}{5} \div 2\frac{3}{8}$

A) $\frac{30}{13}$ B) $\frac{209}{40}$ C) $\frac{88}{95}$ D) $\frac{11}{95}$

Answer: C

52) $11\frac{4}{5} \div 4$

A) $\frac{236}{5}$ B) $\frac{59}{220}$ C) $\frac{103}{16}$ D) $\frac{59}{20}$

Answer: D

53) $\frac{3}{4} + \frac{1}{8}$

A) $\frac{7}{8}$ B) $\frac{7}{16}$ C) $\frac{3}{4}$ D) $\frac{5}{8}$

Answer: A

54) $\frac{5}{24} + \frac{1}{6}$

A) $\frac{3}{8}$ B) $\frac{5}{6}$ C) $\frac{3}{16}$ D) $\frac{1}{24}$

Answer: A

55) $\frac{1}{10} + \frac{4}{5}$

A) $\frac{9}{10}$ B) 3 C) $\frac{1}{10}$ D) $\frac{1}{3}$

Answer: A

56) $\frac{11}{15} + \frac{5}{7}$

A) $1\frac{47}{105}$ B) $6\frac{10}{11}$ C) $\frac{8}{11}$ D) $\frac{16}{105}$

Answer: A

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57) $\frac{5}{48} + \frac{1}{6}$

A) $\frac{7}{51}$ B) $\frac{13}{48}$ C) $\frac{7}{1296}$ D) $6\frac{15}{17}$

Answer: B

58) $1\frac{3}{4} + 1\frac{1}{7}$

A) $1\frac{4}{11}$ B) $7\frac{4}{11}$ C) $2\frac{25}{28}$ D) $\frac{15}{28}$

Answer: C

59) $16\frac{1}{2} + 3\frac{5}{8}$

A) $3\frac{7}{8}$ B) $6\frac{1}{5}$ C) $20\frac{1}{8}$ D) $32\frac{1}{5}$

Answer: C

60) $4\frac{7}{13} + 2\frac{9}{17}$

A) $52\frac{1}{15}$ B) $3\frac{2}{5}$ C) $7\frac{15}{221}$ D) $\frac{6}{13}$

Answer: C

61) $\frac{1}{6} + \frac{1}{3}$

A) $\frac{1}{9}$ B) $\frac{1}{4}$ C) $\frac{1}{2}$ D) $\frac{2}{9}$

Answer: C

62) $\frac{4}{5} - \frac{1}{5}$

A) $\frac{3}{10}$ B) 1 C) $\frac{3}{5}$ D) $\frac{4}{5}$

Answer: C

63) $\frac{4}{28} - \frac{3}{28}$

A) $\frac{1}{4}$ B) $\frac{1}{28}$ C) $\frac{3}{7}$ D) $\frac{1}{56}$

Answer: B

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64) $\frac{8}{9} - \frac{3}{7}$

A) $\frac{5}{63}$ B) $\frac{29}{9}$ C) $\frac{29}{63}$ D) $\frac{63}{29}$

Answer: C

65) $\frac{6}{7} - \frac{1}{3}$

A) $\frac{44}{7}$ B) $\frac{21}{11}$ C) $\frac{1}{42}$ D) $\frac{11}{21}$

Answer: D

66) $\frac{17}{22} - \frac{11}{23}$

A) $\frac{149}{22}$ B) $\frac{506}{149}$ C) $\frac{149}{506}$ D) $\frac{3}{253}$

Answer: C

67) $3\frac{2}{5} - 1\frac{1}{4}$

A) $\frac{7}{40}$ B) $17\frac{1}{5}$ C) $\frac{20}{43}$ D) $2\frac{3}{20}$

Answer: D

68) $20\frac{1}{2} - 8\frac{3}{8}$

A) $12\frac{1}{8}$ B) $\frac{8}{97}$ C) 97 D) $\frac{15}{32}$

Answer: A

69) $\frac{3}{4} - \frac{1}{9}$

A) $\frac{8}{3}$ B) 0 C) $\frac{23}{36}$ D) $\frac{31}{36}$

Answer: C

Solve the problem.

70) Ellen is knitting a scarf with one 7 –inch blue stripe, one $1\frac{5}{9}$ –inch green stripe, and one $2\frac{3}{5}$ –inch white stripe.

How wide is the scarf?

A) $2\frac{9}{16}$ in. B) $\frac{16}{41}$ in. C) $\frac{45}{502}$ in. D) $11\frac{7}{45}$ in.

Answer: D

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71) While shopping for a party, June bought $2\frac{5}{6}$ pounds of hamburger, $3\frac{1}{4}$ pounds of chicken, and $8\frac{1}{2}$ pounds of ham. How much meat did she buy?

A) $\frac{12}{175}$ lb B) $3\frac{11}{12}$ lb C) $\frac{12}{47}$ lb D) $14\frac{7}{12}$ lb

Answer: D

72) To obtain a certain shade of paint, Peter mixed $1\frac{4}{7}$ gallons of white paint with $8\frac{1}{2}$ gallons of brown and $4\frac{1}{4}$ gallons of blue paint. How much paint did he have?

A) $14\frac{9}{28}$ gal B) $\frac{13}{45}$ gal C) $3\frac{6}{13}$ gal D) $\frac{28}{401}$ gal

Answer: A

73) If John puts $\frac{2}{3}$ lb of roast beef on each sandwich, how many sandwiches can he make from $2\frac{2}{3}$ lb of roast beef?

A) 4 sandwiches B) 8 sandwiches C) 3 sandwiches D) 2 sandwiches

Answer: A

74) Anne writes one page in $\frac{1}{3}$ of an hour. How many pages can she write in $1\frac{2}{3}$ hours?

A) 7 page(s) B) 1 page(s) C) 2 page(s) D) 5 page(s)

Answer: D

75) A sawmill trims rough cut boards to look smooth. When a board is rough cut, it is 8 inches wide. When it is trimmed, it is $7\frac{11}{16}$ inches wide. How much width was trimmed off?

A) $8\frac{5}{16}$ in. B) $\frac{11}{16}$ in. C) $\frac{5}{16}$ in. D) $\frac{123}{16}$ in.

Answer: C

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76)

	MICROWAVE	STOVE TOP		
Servings	3	3	4	6
Milk	$3\frac{3}{4}$ cup	3 cups	5 cups	6 cups
Oatmeal	6 Tbsp	5 Tbsp	1 cup	3 cups
Butter	1 pat	1 pat	$\frac{1}{4}$ Tbsp	$\frac{1}{2}$ Tbsp

Using the chart above, (I) how many cups of milk would be needed for 8 microwave servings? (II) How many tablespoons of butter would be needed for 5 stove top servings?

A) $9\frac{1}{3}$ cups; $\frac{1}{4}$ Tbsp

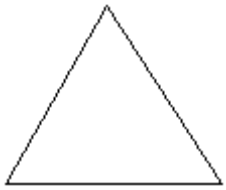
B) $1\frac{11}{12}$ cups; $1\frac{1}{4}$ Tbsp

C) 10 cups; $\frac{5}{16}$ Tbsp

D) 4 cups; $\frac{3}{8}$ Tbsp

Answer: C

77) Find the perimeter of the triangle in the figure.



A) $16\frac{5}{7}$ km

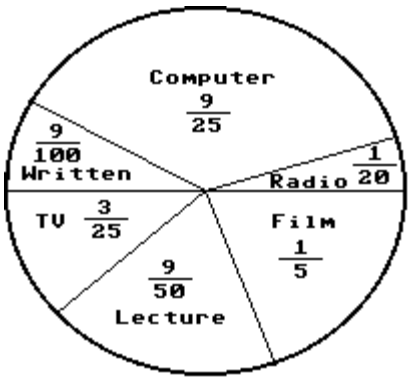
B) $16\frac{1}{2}$ km

C) $16\frac{3}{7}$ km

D) $11\frac{1}{2}$ km

Answer: B

78)



In a school survey, students showed these preferences for instructional materials.
About how many students would you expect to prefer computers in a school of 700 students?

A) About 126 students

B) About 140 students

C) About 252 students

D) About 36 students

Answer: C

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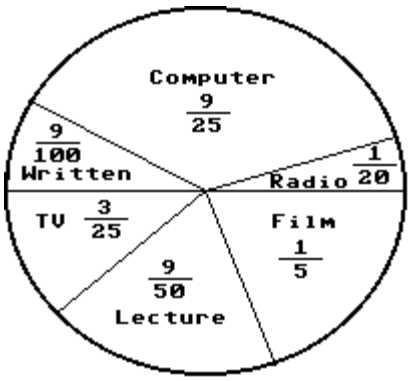
79)



In a school survey, students showed these preferences for instructional materials.
About how many students would you expect to prefer lectures in a school of 400 students?

A) About 72 students
B) About 18 students
C) About 80 students
D) About 144 students

Answer: A

Answer the question.

80) In the fraction $\frac{7}{3}$, the numerator is ?.

A) 7 B) 21 C) 10 D) 3

Answer: A

81) In the fraction $\frac{9}{6}$, the denominator is ?.

A) 9 B) 54 C) 6 D) 15

Answer: C

82) In a fraction, the number that is written below the fraction bar is called the ?.

A) difference B) numerator C) quotient D) denominator

Answer: D

83) Which of the following can be written as a mixed number?

A) $\frac{9}{3}$ B) $\frac{3}{17}$ C) $\frac{17}{3}$ D) $\frac{17}{34}$

Answer: C

84) What is the reciprocal of $\frac{3}{7}$?

A) 1 B) $\frac{7}{3}$ C) $\frac{1}{7}$ D) $\frac{1}{3}$

Answer: B

85) If two numbers are divided, then the answer is called the ?.

A) quotient B) sum C) product D) difference

Answer: A

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86) Show how to reduce $\frac{42}{63}$ to lowest terms.

A) $\frac{42}{63} = \frac{14}{21} \cdot \frac{3}{3} = \frac{14}{21}$

B) $\frac{42}{63} = \frac{6}{9} \cdot \frac{7}{7} = \frac{6}{9}$

C) $\frac{42}{63} = \frac{35}{56} + \frac{7}{7} = \frac{35}{56}$

D) $\frac{42}{63} = \frac{2}{3} \cdot \frac{21}{21} = \frac{2}{3}$

Answer: D

87) Which number can serve as a common denominator for $\frac{5}{9}$ and $\frac{4}{10}$?

A) 20 B) 90 C) 19 D) 9

Answer: B

88) True or False?
If the numerator and the denominator of a fraction are the same prime number, then the fraction is always in lowest terms.

A) False B) True

Answer: A

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

89) Given a nonzero fraction, how do you write its reciprocal?

Answer: Change the fraction so the numerator becomes the denominator and the denominator becomes the numerator.

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

Write the decimal as a fraction. Do not write in lowest terms.

90) 0.812

A) $\frac{812}{1000}$ B) $\frac{1}{812}$ C) $\frac{406}{1000}$ D) $\frac{1624}{1000}$

Answer: A

91) 1.5

A) $\frac{30}{10}$ B) $\frac{1}{15}$ C) $\frac{15}{10}$ D) $\frac{30}{100}$

Answer: C

92) 8.61

A) $\frac{861}{100}$ B) $\frac{430.5}{100}$ C) $\frac{1722}{100}$ D) $\frac{1}{861}$

Answer: A

93) 8.54

A) $\frac{1}{854}$ B) $\frac{1708}{100}$ C) $\frac{854}{100}$ D) $\frac{427}{100}$

Answer: C

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94) 0.9

A) $\frac{9}{100}$ B) $\frac{1}{9}$ C) $\frac{1}{90}$ D) $\frac{9}{10}$

Answer: D

95) 5.232

A) $\frac{5232}{1000}$ B) $\frac{5232}{10,000}$ C) $\frac{5232}{10}$ D) $\frac{5232}{100}$

Answer: A

Add or subtract as indicated. Make sure that your answer is reasonable by estimating first.

96) 8.057 + 1.228

A) 10.285 B) 9.285 C) 6.829 D) –6.829

Answer: B

97) 2.38 + 6.097

A) 8.477 B) 8.577 C) –3.717 D) 3.717

Answer: A

98) 12 + 17.69

A) 5.69 B) 29.79 C) –5.69 D) 29.69

Answer: D

99) 8 + 2.54 + 0.503

A) 4.957 B) 11.043 C) 10.037 D) 5.963

Answer: B

100) 4.96 – 2.335

A) 2.625 B) 7.295 C) –2.625 D) 2.725

Answer: A

101) 88 – 0.0193

A) 88.0807 B) 88.0193 C) –87.9807 D) 87.9807

Answer: D

102) 7.086 – 3.632

A) 10.718 B) 3.554 C) 3.454 D) –3.454

Answer: C

103) 83.773 + 28.53 + 587.603 + 394.461

A) 1351.137 B) 1094.367 C) 739.3521 D) 565.5243

Answer: B

104) 87.906 + 184.815 + 6.723

A) 113.1105 B) 279.444 C) 339.951 D) 200.3286

Answer: B

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Multiply or divide as indicated. Make sure that your answer is reasonable by estimating first.

105) 3.55×4

A) 7 B) 14.2 C) 14 D) 7.55

Answer: B

106) 8.2×1.8

A) 14.87 B) 14.86 C) 14.871 D) 14.76

Answer: D

107) 167.5×0.40

A) 67.11 B) 67.111 C) 67.1 D) 67.000

Answer: D

108) 14.79×0.007

A) 1.20353 B) 0.21353 C) 0.10353 D) 0.20353

Answer: C

109) $47.7 \div 5$

A) 0.105 B) 95.4 C) 9.54 D) 0.954

Answer: C

110) $49.4 \div 9.1$

A) 5.429 B) 54.286 C) 0.543 D) 0.184

Answer: A

Change the fraction to a decimal. Round as indicated.

111) $\frac{6}{7}$ hundredths

A) 0.43 B) 0.86 C) 0.17 D) 4.30

Answer: B

112) $\frac{15}{16}$ thousandths

A) 0.188 B) 0.938 C) 0.469 D) 4.690

Answer: B

113) $\frac{20}{24}$ thousandths

A) 4.165 B) 0.417 C) 0.167 D) 0.833

Answer: D

114) $\frac{9}{7}$ thousandths

A) 1.286 B) 6.430 C) 0.643 D) 0.257

Answer: A

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115) $1\frac{7}{13}$ ten thousandths

A) 7.6925 B) 0.7693 C) 1.5385 D) 0.3077

Answer: C

116) $\frac{5}{6}$ one decimal places

A) 0.8 B) 0.4 C) 0.2 D) 4.0

Answer: A

117) $1\frac{11}{28}$ four decimal places

A) 1.3929 B) 0.6965 C) 0.2786 D) 6.9645

Answer: A

Write the fraction as a decimal using the bar notation.

118) $\frac{2}{9}$

A) $0.\overline{22}$ B) $0.\overline{2}$ C) $0.\overline{3}$ D) $0.\overline{9}$

Answer: B

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

A) $0.\overline{6}$ B) $0.\overline{3}$ C) $0.\overline{33}$ D) 0.3

Answer: B

120) $\frac{47}{99}$

A) $0.47\overline{74}$ B) $0.\overline{48}$ C) $0.\overline{99}$ D) $0.\overline{47}$

Answer: D

Write as a decimal.

121) 78%

A) 0.67 B) 7.8 C) 0.78 D) 0.078

Answer: C

122) 74.2%

A) 0.632 B) 7.42 C) 0.0742 D) 0.742

Answer: D

123) 500%

A) 5.01 B) 5 C) 50 D) 0.5

Answer: B

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124) 870%

A) 0.87 B) 87 C) 8.71 D) 8.7

Answer: D

125) 363%

A) 3.63 B) 0.363 C) 3.64 D) 36.3

Answer: A

126) 60.15%

A) 0.06015 B) 0.5915 C) 6.015 D) 0.6015

Answer: D

127) 0.93%

A) 0.93 B) 0.0093 C) 0.0103 D) 0.093

Answer: B

128) 61.5%

A) 0.0615 B) 0.615 C) 6.15 D) 0.00615

Answer: B

129) $7\frac{1}{9}\%$

A) 7.1111 B) 0.7111 C) 0.0711 D) 7.0011

Answer: C

130) $5\frac{2}{7}\%$

A) 0.0529 B) 5.2857 C) 0.5286 D) 5.0029

Answer: A

Write as a percent.

131) 0.72

A) 720% B) 0.072% C) 7.2% D) 72%

Answer: D

132) 0.8

A) 0.8% B) 0.08% C) 80% D) 800%

Answer: C

133) 0.057

A) 0.057% B) 57% C) 0.0057% D) 5.7%

Answer: D

134) 0.114

A) 0.0114% B) 11.4% C) 114% D) 0.114%

Answer: B

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135) 2.4

A) 240% B) 24% C) 0.0024% D) 0.24%

Answer: A

136) 0.00477

A) 0.000477% B) 0.0477% C) 0.2385% D) 0.477%

Answer: D

137) 2

A) 100% B) 0.2% C) 200% D) 0.02%

Answer: C

Write the percent as a fraction or mixed number in lowest terms.

138) 80%

A) $\frac{2}{5}$ B) $\frac{8}{5}$ C) $\frac{4}{5}$ D) 8

Answer: C

139) 0.2%

A) $\frac{1}{500}$ B) $\frac{1}{250}$ C) $\frac{1}{50}$ D) $\frac{1}{1000}$

Answer: A

140) 600%

A) 600 B) 60 C) 6 D) 6000

Answer: C

141) 4.55%

A) $\frac{91}{2}$ B) $\frac{91}{200}$ C) $\frac{91}{2000}$ D) $\frac{91}{20}$

Answer: C

142) 425%

A) $42\frac{1}{2}$ B) $\frac{17}{100}$ C) $8\frac{1}{2}$ D) $4\frac{1}{4}$

Answer: D

Write as a percent.

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

A) $33.\overline{3}\%$ B) 33% C) $0.\overline{3}\%$ D) $3.\overline{3}\%$

Answer: A

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144) $\frac{9}{16}$

A) 5.625% B) 56.25% C) 0.5625% D) 177.7778%

Answer: B

Solve the problem.

145) Where Jane lives, a sales tax of 2% is added to all purchases. If she buys a camera that costs $730, how much will she pay for the camera, including the tax? Round your answer to the nearest cent.

A) $876.00 B) $737.30 C) $751.90 D) $744.60

Answer: D

146) Alex wants to buy a telephone that has costs $146. If a sales tax of 5% is added to the purchase, how much will he pay for the telephone, including the tax? Round your answer to the nearest cent.

A) $154.76 B) $153.30 C) $151.84 D) $219.00

Answer: B

147) Shari enjoyed services at a spa. The total cost of these services was $310. If she decides to leave a 9% tip, how much should the tip be? Round your answer to the nearest cent.

A) $24.80 B) $31.00 C) $27.90 D) $279.00

Answer: C

148) 90 hamsters out of a total of 113 hamsters were treated for an illness. What percent of the hamsters were treated for the illness? Round to the nearest whole percent.

A) 11% B) 1130% C) 72% D) 80%

Answer: D

149) In a survey of 420 men, 21 men said they planned to exercise more this year. What percent of those surveyed planned to exercise more this year? Round to the nearest whole percent.

A) 5% B) 105% C) 42% D) 50%

Answer: A

150) 86 acres is what percent of 107 acres? Round to the nearest whole percent.

A) 80% B) 1070% C) 69% D) 11%

Answer: A

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

Provide an appropriate response.

151) Select a decimal percent with two digits and write it as a fraction. Select a fraction with a three–digit denominator and write it as a percent. Explain each step of your work.

Answer: Answers will vary.

152) Prepare a table showing the percent and decimal equivalents for these fractions: $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, and $\frac{1}{32}$.

Answer: 25%, 12.5%, 6.3%, 3.1%
0.25,0.125,0.063,0.031

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153) Explain why the decimal points must be lined up vertically when adding decimal numbers.

Answer: Digits in different place values cannot be combined.

154) What is wrong with adding decimal numbers in the following example?
25 + 0.33 = 0.58

Answer: The correct answer is 25.33. The student added 0.25, not 25.

155) Correct and explain the following error:

$$\begin{array}{r} 0.999 \\ +\ 0.001 \\ \hline 0.1000 \end{array}$$

Answer: When adding the digits in the ones place, the decimal was placed incorrectly. The correct answer is 1.000.

156) Correct and explain the error that a student made when he added 0.23 + 3 + 90.3 this way:

$$\begin{array}{r} 0.2\ 3 \\ 3 \\ +\ 9\ 0.3 \\ \hline 9\ 5.6 \end{array}$$

Answer: The columns were not aligned correctly. The correct answer is 93.53.

157) Explain and correct the error in the following problem:

$$\begin{array}{r} 6.\ 6\ 9 \\ -\ 2\ 5.\ 2 \\ \hline 4.\ 1\ 7 \end{array}$$

Answer: The columns must be aligned before subtracting.

158) What is the rule for multiplying a decimal number by 100,000?

Answer: Move the decimal point 5 places to the right.

159) What is the rule for multiplying a decimal number by 0.00001?

Answer: Move the decimal point 5 places to the left.

160) What is wrong with the following problem?

$$\begin{array}{r} 0.0001 \\ \times\ \ 2 \\ \hline 0.002 \end{array}$$

Answer: The correct answer is 0.0002

161) What is wrong with the following problem?

$$\begin{array}{r} 0.01 \\ \times\ \ 2 \\ \hline 0.2 \end{array}$$

Answer: The correct answer is 0.02.

162) What is the rule for dividing a decimal number by 100,000?

Answer: Move the decimal point 5 places to the left.

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163) What is the rule for dividing a decimal number by 0.00001?

Answer: Move the decimal point 5 places to the right.

164) What is wrong with the following problem?

$$\begin{array}{r} 4.01 \\ 0.2\overline{)\,8.02} \\ -\,8 \\ \hline 0.02 \\ -\;\;0.02 \\ \hline 0 \end{array}$$

Answer: Both the dividend and the divisor should be multiplied by 10. The correct answer is 40.1.

165) What is wrong with the following problem? Explain and correct the error.

$$\frac{6}{15} = 6\overline{)\,15.0}\;\begin{array}{r} 2.5 \\ -12 \\ \hline 30 \\ -30 \\ \hline 0 \end{array}$$

Answer: The numerator 6 is the dividend and the denominator 6 is the divisor. The correct answer is 0.4.

166) Explain why improper fractions are equivalent to decimal numbers larger than 1.

Answer: Improper fractions can be written as mixed numbers which are the sum of a natural number and a proper fraction. Mixed numbers are always greater than or equal to 1.

167) Explain why proper fractions are equivalent to decimal numbers less than 1.

Answer: The numerator of a proper fraction is always less than the denominator, hence the number is less than 1.

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1) C
2) C
3) B
4) B
5) C
6) B
7) C
8) B
9) C
10) B
11) A
12) C
13) C
14) C
15) A
16) A
17) A
18) B
19) B
20) A
21) B
22) D
23) A
24) A
25) A
26) C
27) B
28) C
29) C
30) D
31) B
32) C
33) D
34) C
35) B
36) D
37) C
38) B
39) D
40) D
41) A
42) C
43) B
44) B
45) A
46) D
47) D
48) A
49) B

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50) C
51) C
52) D
53) A
54) A
55) A
56) A
57) B
58) C
59) C
60) C
61) C
62) C
63) B
64) C
65) D
66) C
67) D
68) A
69) C
70) D
71) D
72) A
73) A
74) D
75) C
76) C
77) B
78) C
79) A
80) A
81) C
82) D
83) C
84) B
85) A
86) D
87) B
88) A
89) Change the fraction so the numerator becomes the denominator and the denominator becomes the numerator.
90) A
91) C
92) A
93) C
94) D
95) A
96) B
97) A
98) D

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99) B
100) A
101) D
102) C
103) B
104) B
105) B
106) D
107) D
108) C
109) C
110) A
111) B
112) B
113) D
114) A
115) C
116) A
117) A
118) B
119) B
120) D
121) C
122) D
123) B
124) D
125) A
126) D
127) B
128) B
129) C
130) A
131) D
132) C
133) D
134) B
135) A
136) D
137) C
138) C
139) A
140) C
141) C
142) D
143) A
144) B
145) D
146) B
147) C

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148) D
149) A
150) A
151) Answers will vary.
152) 25%, 12.5%, 6.3%, 3.1%
0.25,0.125,0.063,0.031
153) Digits in different place values cannot be combined.
154) The correct answer is 25.33. The student added 0.25, not 25.
155) When adding the digits in the ones place, the decimal was placed incorrectly. The correct answer is 1.000.
156) The columns were not aligned correctly. The correct answer is 93.53.
157) The columns must be aligned before subtracting.
158) Move the decimal point 5 places to the right.
159) Move the decimal point 5 places to the left.
160) The correct answer is 0.0002
161) The correct answer is 0.02.
162) Move the decimal point 5 places to the left.
163) Move the decimal point 5 places to the right.
164) Both the dividend and the divisor should be multiplied by 10. The correct answer is 40.1.
165) The numerator 6 is the dividend and the denominator 6 is the divisor. The correct answer is 0.4.
166) Improper fractions can be written as mixed numbers which are the sum of a natural number and a proper fraction. Mixed numbers are always greater than or equal to 1.
167) The numerator of a proper fraction is always less than the denominator, hence the number is less than 1.

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