

1. Find the least common multiple (LCM) of the numbers 8, 6.
A) 48
B) 2
C) 24
D) 1
E) 8

2. Find the least common multiple (LCM) of the numbers 8, 20.
A) 8
B) 4
C) 160
D) 1
E) 40

3. Find the least common multiple (LCM) of the numbers 16, 12.
A) 1
B) 4
C) 192
D) 48
E) 16

4. Find the least common multiple (LCM) of the numbers 18, 16, 14.
A) 1008
B) 2
C) 4032
D) 1
E) 18

5. Find the greatest common factor (GCF) of the numbers 9, 6.
A) 18
B) 3
C) 54
D) 1
E) 9

6. Find the greatest common factor (GCF) of the numbers 10, 28.
A) 2
B) 140
C) 280
D) 1
E) 10

7. Find the greatest common factor (GCF) of the numbers 28, 112.
- A) 112
 - B) 28
 - C) 3136
 - D) 1
 - E) 4
8. Find the greatest common factor (GCF) of the numbers 10, 20, 35.
- A) 140
 - B) 7000
 - C) 5
 - D) 1
 - E) 10
9. Find the greatest common factor (GCF) of the numbers 21, 28, 35.
- A) 7
 - B) 21
 - C) 28
 - D) 35
 - E) 588
10. Determine if the fraction equals 0, 1, 11, or is undefined.
- $$\frac{11}{0}$$
- A) 0
 - B) 1
 - C) 11
 - D) undefined
11. Determine if the fraction equals 0, 1, 15, or is undefined.
- $$\frac{15}{1}$$
- A) 0
 - B) 1
 - C) 15
 - D) undefined

12. Determine if the fraction equals 0, 1, 13, or is undefined.

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

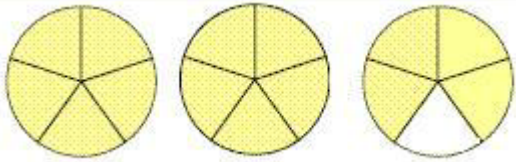
- A) 0
B) 1
C) 13
D) undefined

13. Determine if the fraction equals 0, 1, 4, or is undefined.

$$\frac{0}{4}$$

- A) 0
B) 1
C) 4
D) undefined

14. Express the shaded portion of the circles as an improper fraction and as a mixed number.



- A) $\frac{13}{5}$; $2\frac{3}{5}$
B) $\frac{9}{5}$; $1\frac{4}{5}$
C) $\frac{14}{5}$; $2\frac{4}{5}$
D) $\frac{19}{5}$; $3\frac{4}{5}$
E) $\frac{23}{5}$; $4\frac{3}{5}$

15. Write the improper fraction as a whole number.

$$\frac{30}{5}$$

- A) 6
- B) 5
- C) 7
- D) 4
- E) 8

16. Write the improper fraction as a mixed number.

$$\frac{11}{2}$$

- A) $4\frac{1}{2}$
- B) $6\frac{1}{2}$
- C) $7\frac{3}{2}$
- D) $5\frac{1}{2}$
- E) $5\frac{3}{2}$

17. Write the mixed number as an improper fraction.

$$6\frac{7}{10}$$

- A) $\frac{42}{10}$
- B) $\frac{53}{10}$
- C) $\frac{67}{10}$
- D) $\frac{113}{10}$
- E) $\frac{76}{10}$

18. Write the whole number 6 as an improper fraction.

- A) $\frac{1}{6}$
- B) $\frac{12}{6}$
- C) $\frac{18}{12}$
- D) $\frac{18}{6}$
- E) $\frac{6}{1}$

19. Write the fraction $\frac{7}{8}$ as an equivalent fraction with the given denominator.

- $\frac{7}{8} = \frac{?}{32}$
- A) $\frac{4}{32}$
 - B) $\frac{28}{32}$
 - C) $\frac{35}{32}$
 - D) $\frac{21}{32}$
 - E) $\frac{8}{32}$

20. Write the whole number 5 as an equivalent fraction with the specified denominator.

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

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

B) $\frac{25}{4}$

C) $\frac{15}{4}$

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

E) $\frac{24}{4}$

21. Write the fraction in simplest form.

$$\frac{6}{15}$$

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

B) $\frac{5}{2}$

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

D) $\frac{2}{5}$

E) $\frac{1}{5}$

22. Write the fraction in simplest form.

$$\frac{12}{66}$$

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

B) $\frac{2}{11}$

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

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

E) $\frac{1}{11}$

23. Write the fraction in simplest form.

$$\frac{18y}{48}$$

A) $\frac{3}{8y}$

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

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

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

E) $\frac{y}{8}$

24. Write the fraction in simplest form.

$$\frac{7c}{7}$$

A) $7c$

B) $\frac{c}{7}$

C) 1

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

E) c

25. Place the correct symbol, < or >, between the two numbers.

$$\frac{2}{17} ? \frac{3}{16}$$

A) >

B) <

26. Place the correct symbol, < or >, between the two numbers.

$$\frac{5}{8} ? \frac{6}{7}$$

A) >

B) <

27. Add.

$$\frac{4}{5} + \frac{4}{5}$$

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

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

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

D) $\frac{16}{25}$

E) $\frac{8}{25}$

28. Add.

$$\frac{8}{16} + \frac{13}{16} + \frac{4}{16}$$

A) $\frac{25}{48}$

B) $1\frac{5}{8}$

C) $1\frac{9}{16}$

D) $2\frac{9}{16}$

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

29. Add.

$$\frac{2}{9} + \left(-\frac{4}{15}\right)$$

A) $-\frac{2}{45}$

B) $-\frac{8}{135}$

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

D) $-\frac{1}{12}$

E) $\frac{8}{135}$

30. Add.

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

A) $14\frac{7}{12}$

B) $13\frac{5}{12}$

C) $13\frac{5}{9}$

D) $13\frac{7}{12}$

E) $14\frac{5}{9}$

31. Find $2\frac{5}{12}$ plus $4\frac{3}{8}$.

A) $7\frac{19}{24}$

B) $6\frac{2}{5}$

C) $6\frac{1}{12}$

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

E) $6\frac{19}{24}$

32. Evaluate the variable expression $x + y$ for the given values of x and y .

$$x = -\frac{7}{10}, y = -\frac{7}{12}$$

A) $-2\frac{17}{60}$

B) $-\frac{7}{60}$

C) $-1\frac{17}{60}$

D) $\frac{7}{60}$

E) $1\frac{17}{60}$

33. Subtract.

$$\frac{1}{10} - \frac{7}{10}$$

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

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

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

D) $-\frac{7}{10}$

E) $-\frac{4}{5}$

34. Subtract.

$$\frac{2}{w} - \frac{9}{w}$$

A) $-\frac{7}{w}$

B) $\frac{7}{w}$

C) $-\frac{11}{w}$

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

E) $\frac{11}{w}$

35. Subtract.

$$\frac{3}{11} - \frac{1}{2}$$

A) $\frac{5}{22}$

B) $\frac{1}{11}$

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

D) $-\frac{5}{22}$

E) $-\frac{2}{9}$

36. Subtract.

$$-\frac{6}{7} - \left(-\frac{5}{8}\right)$$

A) $-\frac{13}{56}$

B) $\frac{13}{56}$

C) $-\frac{83}{56}$

D) $-\frac{1}{56}$

E) $\frac{83}{56}$

37. Subtract.

$$8\frac{1}{3} - 1\frac{2}{7}$$

A) $8\frac{1}{21}$

B) $7\frac{1}{21}$

C) $-8\frac{1}{21}$

D) $7\frac{20}{21}$

E) $-7\frac{1}{21}$

38. What is $-\frac{3}{4}$ less than $-\frac{4}{9}$?

A) $\frac{43}{36}$

B) $-\frac{43}{36}$

C) $\frac{1}{5}$

D) $\frac{11}{36}$

E) $-\frac{11}{36}$

39. Evaluate the variable expression $x - y$ for the given values of x and y .

$$x = -\frac{5}{6}, y = -\frac{1}{9}$$

A) $\frac{13}{18}$

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

C) $-\frac{17}{18}$

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

E) $-\frac{13}{18}$

40. Evaluate the variable expression $x - y$ for the given values of x and y .

$$x = 4\frac{1}{8}, y = 1\frac{8}{9}$$

A) $3\frac{17}{72}$

B) $-2\frac{17}{72}$

C) $-3\frac{17}{72}$

D) $2\frac{55}{72}$

E) $2\frac{17}{72}$

41. You purchased $3\frac{7}{16}$ acres of land and sold $1\frac{3}{4}$ acres of the property. How many acres of the property do you still own?

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

B) $2\frac{11}{16}$

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

D) $1\frac{11}{16}$

E) $5\frac{13}{16}$

42. You are required to contribute 20 h of community service to the town in which your college is located. After you have contributed $15\frac{3}{4}$ h, how many hours of community service are still required of you?

A) $8\frac{3}{4}$

B) $4\frac{1}{4}$

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

D) $35\frac{3}{4}$

E) $3\frac{1}{4}$

43. A wrestler is put on a diet to gain 20 pounds in six weeks. The wrestler gains $6\frac{1}{2}$ pounds during the first two weeks and $3\frac{3}{4}$ pounds during the second two weeks. How many pounds must the wrestler gain during the last two weeks in order to gain a total of 20 pounds?

- A) $11\frac{3}{4}$
- B) $10\frac{1}{4}$
- C) $12\frac{1}{4}$
- D) $12\frac{3}{4}$
- E) $9\frac{3}{4}$

44. Multiply.

$$\frac{4}{7} \cdot \frac{4}{11}$$

- A) $\frac{8}{9}$
- B) $\frac{16}{77}$
- C) $\frac{8}{77}$
- D) $\frac{4}{9}$
- E) $\frac{77}{16}$

45. Multiply.

$$-\frac{5}{8} \cdot \frac{0}{2}$$

A) 0

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

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

D) 1

E) undefined

46. Evaluate the variable expression xy for the given values of x and y .

$$x = -\frac{2}{15}, y = \frac{6}{13}$$

A) $\frac{4}{65}$

B) $-\frac{8}{195}$

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

D) $-\frac{4}{65}$

E) $\frac{8}{195}$

47. Evaluate the variable expression xyz for the given values of x , y , and z .

$$x = 2\frac{3}{8}, y = \frac{3}{4}, z = -\frac{2}{9}$$

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

B) $-\frac{19}{48}$

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

D) $\frac{24}{41}$

E) $\frac{19}{48}$

48. Is $\frac{4}{7}$ a solution of the equation $\frac{7}{9}x = \frac{9}{4}$?

- A) Yes
- B) No

49. Divide.

$$\frac{4}{9} \div 0$$

- A) 0
- B) Undefined

50. Divide.

$$\frac{8}{x} \div \left(-\frac{y}{9}\right)$$

- A) $-\frac{8y}{9x}$
- B) $-\frac{72}{xy}$
- C) $-\frac{xy}{72}$
- D) $\frac{xy}{72}$
- E) $-\frac{8}{9xy}$

51. Find the number of $\frac{2}{5}$ -oz servings in a box of Post Shredded Wheat.

Cereal	Net Weight
Kellogg Honey Crunch Corn Flakes	24 oz
Nabisco Instant Cream of Wheat	28 oz
Post Shredded Wheat	18 oz

- A) 9
- B) 90
- C) 45
- D) 18
- E) 72

52. One rod is equal to $5\frac{1}{2}$ yards. How many feet are in 8 rods?

- A) 44 in.
- B) 1,584 in.
- C) 396 in.
- D) 528 in.
- E) 132 in.

53. According to a national survey, the average person watches television $22\frac{1}{2}$ h each week.

How many hours of television does the average person watch per year?

- A) 1,170 h
- B) 1,144 h
- C) 585 h
- D) 2,340 h
- E) 572 h

54. Find the rate of a runner who runs $8\frac{1}{3}$ miles in $2\frac{2}{3}$ hours. Use the equation $r = \frac{d}{t}$, where r is the rate in mph, d is the distance run in miles, and t is the time in hours.

- A) $2\frac{1}{4}$ mph
- B) $4\frac{1}{8}$ mph
- C) $3\frac{1}{8}$ mph
- D) $5\frac{1}{8}$ mph
- E) $3\frac{1}{4}$ mph

55. Name the place value of the digit 1 for the number 63.42198.

- A) hundredths
- B) thousands
- C) thousandths
- D) ten-thousandths
- E) hundreds

56. Name the place value of the digit 3 for the number 410.263987.

- A) thousandths
- B) thousands
- C) tenths
- D) ten-thousandths
- E) tens

57. Write the fraction $\frac{8}{10}$ as a decimal.

- A) 0.08
- B) 0.8
- C) 0.008
- D) 0.18
- E) 0.018

58. Write the fraction $\frac{58}{100}$ as a decimal.

- A) 0.058
- B) 0.0058
- C) 5.8
- D) 0.58
- E) 0.508

59. Write the decimal 0.47 as a fraction.

- A) $\frac{47}{10}$
- B) $\frac{47}{1000}$
- C) $\frac{47}{10,000}$
- D) $\frac{1000}{47}$
- E) $\frac{47}{100}$

60. Write the number 0.23 in words.
A) twenty-three hundredths
B) twenty-three tenths
C) twenty-three thousandths
D) twenty-three ten-thousandths
E) twenty-three millionths
61. Write the number 52.63 in words.
A) fifty-two and sixty-three tenths
B) fifty-two and sixty-three hundredths
C) fifty-two and sixty-three thousandths
D) fifty-two and sixty-three ten-thousandths
E) fifty-two and sixty-three millionths
62. Write the number three and seven hundred four ten-thousandths in standard form.
A) 3.704
B) 3.0074
C) 3.074
D) 3.0704
E) 3.7004
63. Write the number two hundred fifty-three and two hundred six thousandths in standard form.
A) 253.0206
B) 253.026
C) 253.0026
D) 253.00206
E) 253.206
64. Place the correct symbol, < or >, between the two numbers.
0.7 _ 0.76
A) <
B) >
65. Place the correct symbol, < or >, between the two numbers.
9.035 _ 9.0035
A) >
B) <

66. Write the following numbers in order from smallest to largest.
0.703, 0.7933, 0.793, 0.78
A) 0.78, 0.703, 0.793, 0.7933
B) 0.793, 0.7933, 0.703, 0.78
C) 0.703, 0.78, 0.793, 0.7933
D) 0.7933, 0.703, 0.78, 0.793
E) 0.703, 0.793, 0.78, 0.7933
67. Write the following numbers in order from smallest to largest.
29.3888, 29.388, 29.36, 29.308
A) 29.36, 29.308, 29.388, 29.3888
B) 29.308, 29.36, 29.388, 29.3888
C) 29.388, 29.3888, 29.308, 29.36
D) 29.3888, 29.308, 29.36, 29.388
E) 29.308, 29.388, 29.36, 29.3888
68. Write the number 4.8254 to the nearest tenth.
A) 4.83
B) 4.825
C) 4.0
D) 4.7
E) 4.8
69. Write the number 2.46726 to the nearest thousandth.
A) 2.47
B) 2.4673
C) 2
D) 2.467
E) 2.466
70. Write the number 364.578 to the nearest whole number.
A) 360
B) 365
C) 364
D) 364.6
E) 366

71. Write the number 4.440392 to the nearest ten-thousandth.
- A) 4.44
 - B) 4.44039
 - C) 4.44029
 - D) 4.4405
 - E) 4.4404
72. A nickel weighs about 0.1763668 oz. Find the weight of a nickel to the nearest thousandth of an ounce.
- A) 0.1764 oz
 - B) 0.17637 oz
 - C) 0.176 oz
 - D) 0.175 oz
 - E) 0.2 oz
73. Charge accounts generally require a minimum payment on the balance in the account each month. Use the minimum payment schedule shown below to determine the minimum payment due an account balance of \$215.25.

If the New Balance Is:	The Minimum Required Payment Is:
Up to \$20.00	The new balance
\$20.01 to \$200.00	\$20.00
\$200.01 to \$250.00	\$25.00
\$250.01 to \$300.00	\$30.00
\$300.01 to \$350.00	\$35.00
\$350.01 to \$400.00	\$40.00

- A) \$30.00
- B) \$20.00
- C) \$15.00
- D) \$25.00
- E) \$35.00

74. Charge accounts generally require a minimum payment on the balance in the account each month. Use the minimum payment schedule shown below to determine the minimum payment due an account balance of \$23.78.

If the New Balance Is:	The Minimum Required Payment Is:
Up to \$20.00	The new balance
\$20.01 to \$200.00	\$20.00
\$200.01 to \$250.00	\$25.00
\$250.01 to \$300.00	\$30.00
\$300.01 to \$350.00	\$35.00
\$350.01 to \$400.00	\$40.00

- A) \$20.00
B) \$35.00
C) \$30.00
D) \$23.78
E) \$40.00
75. Add.
 $3.412 + 2 + 24.684$
A) 60.804
B) 30.096
C) 28.098
D) 7.880
E) 28.296
76. Add.
 $32.3 + 3.2 + 122.53$
A) 477.53
B) 47.75
C) 154.83
D) 158.03
E) 155.15
77. Subtract.
 $24 - 6.699$
A) 17.301
B) 173.01
C) 1.730
D) -4.299
E) 17.361

78. Multiply.

$$8.98(3.005)$$

- A) 27.0349
- B) 26.9849
- C) 2698.49
- D) 2.69849
- E) 2.73849

79. Divide.

$$19.6 \div (-0.8)$$

- A) -245
- B) -24.5
- C) -2.45
- D) 24.5
- E) 2.45

80. Divide and round to the nearest hundredth.

$$0.149 \div (-0.47)$$

- A) -0.32
- B) 0.32
- C) 0.28
- D) 0.39
- E) -0.03

81. What is the quotient of 56.99 and 10^3 ?

- A) 0.005699
- B) 0.5699
- C) 5.699
- D) 0.05699
- E) 0.0005699

82. Divide and round to the nearest hundredth.

$$6.838 \div 3.8$$

- A) 17.99
- B) 0.18
- C) 1.90
- D) 1.76
- E) 1.80

83. Convert the fraction $\frac{3}{20}$ to a decimal.

- A) 0.15
- B) 0.25
- C) 0.0015
- D) 0.015
- E) 0.025

84. Convert the mixed number $6\frac{3}{5}$ to a decimal.

- A) 6.9
- B) 3.6
- C) 6.8
- D) 6.7
- E) 6.6

85. Convert the decimal 0.365 to a fraction.

- A) $\frac{3}{8}$
- B) $\frac{73}{200}$
- C) $\frac{71}{200}$
- D) $\frac{37}{100}$
- E) $\frac{9}{25}$

86. Convert the decimal 1.44 to a fraction.

- A) $\frac{11}{25}$
- B) $1\frac{11}{50}$
- C) $1\frac{11}{25}$
- D) $\frac{11}{50}$
- E) $1\frac{22}{25}$

87. Place the correct symbol, $<$ or $>$, between the two numbers.

$$\frac{6}{7} - 0.8580$$

A) $<$

B) $>$

88. Find the area of a rectangle that measures 3.6 in. by 6.95 in. Use the formula $A = LW$.

A) 21.100

B) 10.550

C) 25.020

D) 25.220

E) 26.060

89. Find the force exerted on a falling object that has a mass of 4.35 kg. Use the formula, $F = ma$, where F is the force exerted by gravity on a falling object, m is the mass of the object, and a is the acceleration of gravity. The acceleration of gravity is -9.80 m/s^2 (meters per second squared). The force is measured in newtons.

A) 42.63 newtons

B) -42.63 newtons

C) 43.03 newtons

D) -4.66 newtons

E) -0.44 newtons

90. Simplify.

$$\left(\frac{3}{5}\right)^2 - \frac{1}{10}$$

A) $\frac{1}{4}$

B) $\frac{13}{50}$

C) $-\frac{1}{4}$

D) $-\frac{13}{50}$

E) $\frac{4}{25}$

91. Simplify.

$$\left(5\frac{1}{7}-\frac{1}{2}\right)+\frac{2}{5}\div\left(-\frac{1}{3}\right)^2$$

A) $45\frac{27}{70}$

B) $3\frac{57}{70}$

C) $-45\frac{27}{70}$

D) $8\frac{17}{70}$

E) $-8\frac{17}{70}$

92. Simplify.

$$\left(\frac{2}{3}\right)^2+\frac{7-2}{4-1}\div\frac{1}{2}$$

A) $4\frac{2}{9}$

B) $16\frac{0}{1}$

C) $-4\frac{2}{9}$

D) $-16\frac{0}{1}$

E) $3\frac{7}{9}$

93. Simplify:

$$(0.5)(0.4)^2+1.9$$

A) 1.98

B) 2.98

C) 2.18

D) 0.98

E) 1.78

94. Simplify:

$$0.2(4.4 - 1.2) + (1.3)^2$$

- A) 3.33
- B) 2.33
- C) 1.33
- D) 2.73
- E) 1.93

95. Evaluate the variable expression $xy^3 + z$ for the given values of x , y , and z .

$$x = \frac{2}{3}, y = \frac{1}{2}, z = \frac{6}{7}$$

- A) $\frac{79}{84}$
- B) $\frac{169}{189}$
- C) $1\frac{4}{21}$
- D) $1\frac{3}{77}$
- E) $\frac{4}{9}$

96. Evaluate the expression $c^2 - ab$, for the given values of variables a , b , and c .

$$a = 1.2, b = 0.5, \text{ and } c = 2.6$$

- A) 7.16
- B) 5.16
- C) 6.16
- D) 6.36
- E) 5.96

Answer Key

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

45. A
46. D
47. B
48. B
49. B
50. B
51. C
52. E
53. A
54. C
55. C
56. A
57. B
58. D
59. E
60. A
61. B
62. D
63. E
64. A
65. A
66. C
67. B
68. E
69. D
70. B
71. E
72. C
73. D
74. A
75. B
76. D
77. A
78. B
79. B
80. A
81. D
82. E
83. A
84. E
85. B
86. C
87. A
88. C
89. B
90. B

- 91. D
- 92. E
- 93. A
- 94. B
- 95. A
- 96. C