1. Find the least common multiple (LCM) of the numbers 8, 10.
   A) 80
   B) 2
   C) 40
   D) 1
   E) 8

2. Find the least common multiple (LCM) of the numbers 10, 14.
   A) 10
   B) 2
   C) 140
   D) 1
   E) 70

3. Find the least common multiple (LCM) of the numbers 20, 18.
   A) 1
   B) 2
   C) 360
   D) 180
   E) 20

4. Find the least common multiple (LCM) of the numbers 12, 10, 16.
   A) 240
   B) 2
   C) 1920
   D) 1
   E) 12

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

6. Find the greatest common factor (GCF) of the numbers 4, 22.
   A) 2
   B) 44
   C) 88
   D) 1
   E) 4

7. Find the greatest common factor (GCF) of the numbers 23, 46.
   A) 46
   B) 23
   C) 1058
   D) 1
   E) 2

8. Find the greatest common factor (GCF) of the numbers 4, 14, 36.
   A) 252
   B) 2016
   C) 2
   D) 1
   E) 4

9. Find the greatest common factor (GCF) of the numbers 9, 12, 15.
   A) 3
   B) 9
   C) 12
   D) 15
   E) 108

10. Joe Salvo, a nurse, works 5 days and then has a day off. Joe's friend works 7 days and then has a day off. How many days after Joe and his friend have a day off together will they have another day off together?
    A) 34 days
    B) 34 days
    C) 16 days
    D) 24 days
    E) 20 days

11. Identify the following fraction as a proper fraction, an improper fraction, or a mixed number.

$$\frac{15}{14}$$

A) Proper fraction
B) Mixed number
C) Improper fraction

12. Identify the following fraction as a proper fraction, an improper fraction, or a mixed number.

$$2\frac{13}{15}$$

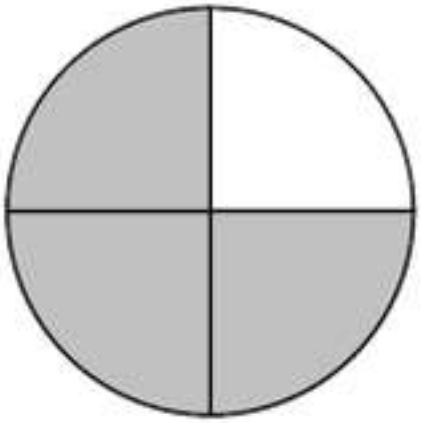
A) Improper fraction
B) Mixed number
C) Proper fraction

13. Identify the following fraction as a proper fraction, an improper fraction, or a mixed number.

$$\frac{11}{18}$$

A) Improper fraction
B) Mixed number
C) Proper fraction

14. Express the shaded portion of the circle as a fraction.



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

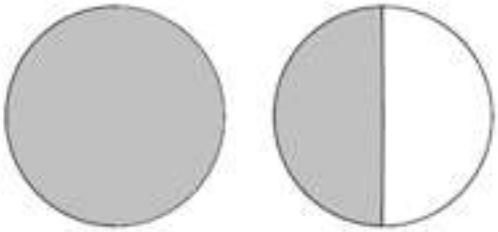
B) $\frac{3}{7}$

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

D) $\frac{3}{9}$

E) $\frac{7}{8}$

15. Express the shaded portion of the circles as a mixed number.



A) $1\frac{3}{2}$

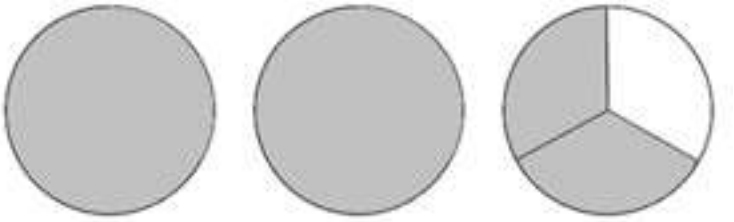
B) $1\frac{1}{2}$

C) $1\frac{2}{3}$

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

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

16. Express the shaded portion of the circles as an improper fraction.



A) $\frac{2}{6}$

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

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

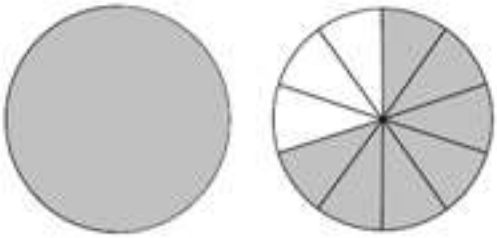
D) $\frac{3}{2}$

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

17. Shade $1\frac{1}{2}$ out of 2 circles.

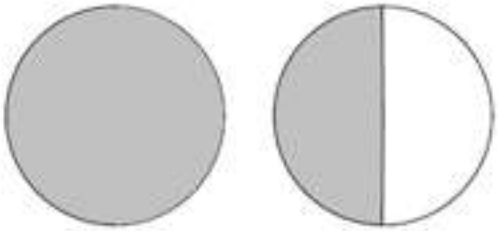
A)

B)

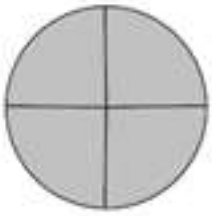


C)

D)



E)



18. Write the improper fraction $\frac{14}{5}$ as a mixed number or a whole number.

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

B) $3\frac{4}{5}$

C) $1\frac{2}{5}$

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

E) $2\frac{4}{5}$

19. Write the improper fraction $\frac{54}{6}$ as a mixed number or a whole number.

A) 9

B) $9\frac{5}{6}$

C) $8\frac{5}{12}$

D) $11\frac{5}{6}$

E) 11

20. Write the mixed number $6\frac{3}{8}$ as an improper fraction.

A) $\frac{45}{16}$

B) $\frac{51}{16}$

C) $\frac{51}{8}$

D) 6

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

21. Write an equivalent fraction with the given denominator.

$$\frac{2}{17} = \frac{?}{102}$$

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

B) $\frac{13}{102}$

C) $\frac{18}{102}$

D) $\frac{12}{102}$

E) $\frac{19}{102}$

22. Write an equivalent fraction with the given denominator.

$$6 = \frac{?}{5}$$

A) $\frac{31}{5}$

B) $\frac{30}{5}$

C) $\frac{35}{5}$

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

E) $\frac{37}{5}$

23. Write the fraction in simplest form.

$\frac{3}{6}$

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

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

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

D) $\frac{6}{3}$

E) $\frac{3}{6}$

24. Write the fraction in simplest form.

$\frac{8}{36}$

A) $\frac{36}{8}$

B) $\frac{1}{9}$

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

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

E) $\frac{8}{36}$

25. Write the fraction in simplest form.

$\frac{0}{26}$

A) 0

B) 1

C) 26

D) 13

E) ∞

26. Write the fraction in simplest form.

$\frac{20}{20}$

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

B) 400

C) 0

D) 40

E) 1

27. Write the fraction in simplest form.

$\frac{8}{21}$

A) $\frac{16}{21}$

B) $\frac{4}{21}$

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

D) 1

E) 0

28. Write the fraction in simplest form.

$\frac{69}{3}$

A) 69

B) $\frac{1}{23}$

C) 3

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

E) 23

29. Generally, the Centers for Disease Control and Prevention (CDC) studies show that there are more boys born than girls. In a recent group of 500 births, there were 405 boys born.
a. What fraction of the babies born were boys?
b. What fraction of the babies born were girls?

A) **a.** $\frac{81}{100}$ **b.** $\frac{19}{100}$

B) **a.** $\frac{38}{50}$ **b.** $\frac{95}{100}$

C) **a.** $\frac{45}{50}$ **b.** $\frac{53}{50}$

D) **a.** $\frac{53}{50}$ **b.** $\frac{45}{50}$

E) **a.** $\frac{95}{100}$ **b.** $\frac{38}{50}$

30. Add:

$$\frac{1}{11}+\frac{5}{11}$$

A) $\frac{6}{22}$

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

C) $\frac{4}{11}$

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

E) 1

31. Add:

$$\frac{5}{12}+\frac{7}{12}$$

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

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

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

D) 12

E) 1

32. Add:

$$\frac{11}{7}+\frac{8}{7}+\frac{5}{7}$$

A) $3\frac{3}{7}$

B) $\frac{19}{7}$

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

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

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

33. Find the sum of $\frac{11}{7}$, $\frac{11}{7}$, and $\frac{3}{7}$.

A) $3\frac{2}{7}$

B) $\frac{25}{7}$

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

D) $3\frac{25}{7}$

E) $\frac{4}{7}$

34. Add:

$$\frac{5}{12}+\frac{3}{14}$$

A) $1\frac{53}{84}$

B) $\frac{53}{84}$

C) $\frac{53}{168}$

D) $2\frac{53}{168}$

E) $1\frac{53}{168}$

35. Add:

$$\frac{4}{7}+\frac{9}{14}+\frac{11}{28}$$

A) $2\frac{17}{28}$

B) $1\frac{17}{14}$

C) $1\frac{17}{28}$

D) $\frac{17}{28}$

E) $\frac{17}{14}$

36. What is $\frac{3}{5}$ added to $\frac{3}{4}$?

A) $1\frac{7}{20}$

B) $2\frac{7}{20}$

C) $1\frac{7}{40}$

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

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

37. Find the total of $\frac{1}{6}$, $\frac{5}{6}$, and $\frac{1}{3}$.

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

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

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

D) $3\frac{1}{6}$

E) $2\frac{1}{3}$

38. Find the sum of $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{10}$.

A) $4\frac{3}{80}$

B) $4\frac{3}{40}$

C) $2\frac{3}{80}$

D) $2\frac{3}{40}$

E) $3\frac{3}{80}$

39. Add:

$$7\frac{3}{10}+2\frac{2}{3}$$

A) $10\frac{87}{100}$

B) $10\frac{29}{30}$

C) $9\frac{29}{30}$

D) $9\frac{87}{100}$

E) $10\frac{29}{270}$

40. Add:

$$\begin{array}{r} 5 \\ +\ \ 2\frac{1}{6} \\ \hline \end{array}$$

A) $8\frac{1}{36}$

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

C) $7\frac{1}{6}$

D) $7\frac{1}{36}$

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

41. Add:

$$\begin{array}{r} 7\frac{4}{5} \\ +\ \ 11 \\ \hline \end{array}$$

A) $18\frac{4}{25}$

B) $19\frac{4}{5}$

C) $19\frac{4}{25}$

D) $18\frac{4}{5}$

E) $19\frac{6}{25}$

42. Add:

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

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

B) $5\frac{1}{2}$

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

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

E) $6\frac{1}{20}$

43. Add:

$6\frac{18}{35}+8$

A) 15

B) $15\frac{18}{35}$

C) $15\frac{9}{35}$

D) $14\frac{9}{35}$

E) $14\frac{18}{35}$

44. Add: $1\frac{1}{2}+4\frac{5}{8}+3\frac{1}{2}$.

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

B) $9\frac{5}{8}$

C) $9\frac{5}{48}$

D) $10\frac{5}{48}$

E) $10\frac{5}{16}$

45. Find the sum of $3\frac{5}{8}$ and $3\frac{1}{6}$.

A) $6\frac{19}{18}$

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

C) $7\frac{19}{18}$

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

E) $7\frac{19}{32}$

46. Find $5\frac{5}{8}$ more than $2\frac{2}{7}$.

A) $8\frac{51}{64}$

B) $8\frac{51}{56}$

C) $8\frac{51}{49}$

D) $7\frac{51}{49}$

E) $7\frac{51}{56}$

47. What is $5\frac{2}{5}$ added to $9\frac{3}{8}$?

A) $15\frac{31}{40}$

B) $14\frac{31}{40}$

C) $15\frac{31}{25}$

D) $14\frac{31}{25}$

E) $15\frac{31}{64}$

48. Find the total of 2, $1\frac{7}{8}$, and $5\frac{1}{4}$.

A) $9\frac{1}{8}$

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

C) $9\frac{1}{64}$

D) $8\frac{1}{64}$

E) $9\frac{1}{32}$

49. Three cylindrical shaped parts are joined at their ends to form a mechanical shaft. If the individual parts are $\frac{1}{4}$ inches, $\frac{1}{8}$ inches, and $\frac{9}{16}$ inches long, respectively, what is the total length of the shaft?

A) 1 inch

B) $\frac{15}{8}$ inches

C) $\frac{15}{64}$ inches

D) $\frac{15}{16}$ inches

E) $\frac{15}{32}$ inches

50. A patient drinks $\frac{2}{4}$ cup of coffee, $\frac{3}{4}$ cup of fruit juice, and $\frac{1}{2}$ cup of water for breakfast. What is the patient's total fluid intake at breakfast?

A) $1\frac{3}{4}$ cups of fluid

B) $4\frac{1}{4}$ cups of fluid

C) $1\frac{3}{2}$ cups of fluid

D) $3\frac{1}{7}$ cups of fluid

E) $6\frac{1}{4}$ cups of fluid

51. A pediatric nurse records the birth weight of a newborn as $2\frac{1}{8}$ pounds. On the first and second monthly visits, the infant gains $1\frac{3}{8}$ pounds and $1\frac{3}{8}$ pounds. How much does the baby weigh at the end of two months?

A) $4\frac{7}{8}$ pounds

B) $4\frac{13}{8}$ pounds

C) $4\frac{15}{8}$ pounds

D) $4\frac{9}{4}$ pounds

E) $4\frac{11}{8}$ pounds

52. A certified nurse assistant weighs a patient who is admitted to a nursing facility. The patient's initial weight is 110 pounds, and she gains $1\frac{5}{4}$ pounds, $\frac{1}{2}$ pound, and $\frac{5}{4}$ pound during the next three months. What is the patient's total weight at the end of three months?

A) 114 pounds
B) 116 pounds
C) 117 pounds
D) 113 pounds
E) 112 pounds

53. A new baby measured $10\frac{1}{16}$ inches at birth. The baby grew $\frac{15}{16}$ inch in August and $\frac{5}{16}$ inch in September. How long is the baby at its two-month checkup?

A) $11\frac{5}{16}$ inches

B) $4\frac{5}{8}$ inches

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

D) $11\frac{6}{16}$ inches

E) $11\frac{5}{8}$ inches

54. A table 33 inches high has a top that is $1\frac{1}{8}$ inches thick. Find the total thickness of the table top after a $3\frac{3}{16}$ inches veneer is applied.

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

B) $4\frac{5}{16}$ inches

C) $5\frac{5}{256}$ inches

D) $4\frac{5}{256}$ inches

E) $5\frac{5}{128}$ inches

55. You are working on a part-time job for \$20 per hour. You worked 6, $2\frac{1}{4}$, $4\frac{1}{2}$, $3\frac{3}{4}$, and $6\frac{1}{2}$ hours during the last five days.

a. Find the total number of hours you worked during the last five days.
b. Find your total wages for the five days.

A) (a) 23 hours; (b) \$460 pay.
B) (a) 3 hours; (b) \$460 pay.
C) (a) 23 hours; (b) \$440 pay.
D) (a) 3 hours; (b) \$440 pay.
E) (a) 3 hours; (b) \$480 pay.

56. The course of a yachting race is in the shape of a triangle with sides that measure $3\frac{7}{12}$ miles, $4\frac{7}{10}$ miles, and $2\frac{7}{8}$ miles. Find the total length of the course.

A) $13\frac{19}{120}$ miles
B) $11\frac{19}{120}$ miles
C) $11\frac{19}{240}$ miles
D) $13\frac{19}{240}$ miles
E) $10\frac{19}{240}$ miles

57. A cook for the nursing home is preparing 100 yeast rolls for dinner. The dry ingredients needed include $18\frac{1}{8}$ cups of flour, $2\frac{5}{8}$ cups of sugar, and $\frac{5}{8}$ cup of salt. How many cups of dry ingredients are in this recipe?

A) $19\frac{19}{8}$ cups

B) $19\frac{9}{4}$ cups

C) $12\frac{9}{8}$ cups

D) $19\frac{12}{8}$ cups

E) $19\frac{11}{8}$ cups

58. The hospital cafeteria staff is preparing 150 servings of chocolate cake for lunch. Dry ingredients include $4\frac{1}{4}$ cups of instant coffee, $17\frac{3}{4}$ cups of white sugar, $6\frac{1}{3}$ cups of all-purpose flour, and $\frac{1}{2}$ cup of confectioner's sugar. Find the total amount of dry ingredients needed for this recipe.

A) $28\frac{5}{6}$ cups

B) $29\frac{5}{6}$ cups

C) $27\frac{7}{6}$ cups

D) $30\frac{5}{6}$ cups

E) $26\frac{5}{6}$ cups

59. Subtract:

$$\begin{array}{r} \frac{12}{17} \\ -\ \frac{9}{17} \\ \hline \end{array}$$

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

B) $1\frac{3}{17}$

C) $1\frac{3}{34}$

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

E) $2\frac{3}{17}$

60. Subtract:

$$\begin{array}{r} \frac{5}{13} \\ -\ \frac{1}{13} \\ \hline \end{array}$$

A) $1\frac{2}{13}$

B) $1\frac{4}{13}$

C) $\frac{4}{13}$

D) $\frac{2}{13}$

E) $2\frac{4}{13}$

61. What is $\frac{2}{11}$ less than $\frac{5}{11}$?

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

B) $1\frac{3}{11}$

C) $1\frac{3}{22}$

D) $\frac{3}{22}$

E) $\frac{3}{11}$

62. Find the difference between $\frac{10}{13}$ and $\frac{3}{13}$.

A) $\frac{7}{26}$

B) $1\frac{7}{13}$

C) $1\frac{7}{26}$

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

E) $\frac{7}{39}$

63. Find $\frac{16}{23}$ decreased by $\frac{12}{23}$.

A) $\frac{2}{23}$

B) $\frac{4}{69}$

C) $\frac{4}{23}$

D) $\frac{1}{23}$

E) $\frac{4}{115}$

64. What is $\frac{6}{11}$ minus $\frac{1}{11}$?

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

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

C) $\frac{5}{11}$

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

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

65. Subtract:

$$\begin{array}{r} \frac{5}{11} \\ -\ \frac{2}{9} \\ \hline \end{array}$$

A) $\frac{23}{1089}$

B) $\frac{23}{891}$

C) $\frac{23}{297}$

D) $\frac{23}{99}$

E) $\frac{23}{198}$

66. Subtract:

$$\begin{array}{r} \frac{4}{9} \\ -\ \frac{1}{5} \\ \hline \end{array}$$

A) $\frac{11}{45}$

B) $\frac{11}{81}$

C) $\frac{11}{135}$

D) $\frac{11}{90}$

E) $\frac{11}{25}$

67. What is $\frac{2}{9}$ less than $\frac{6}{11}$?

A) $\frac{32}{81}$

B) $\frac{32}{121}$

C) $\frac{32}{891}$

D) $\frac{32}{1089}$

E) $\frac{32}{99}$

68. Find the difference between $\frac{9}{13}$ and $\frac{8}{19}$.

A) $1\frac{67}{494}$

B) $1\frac{67}{104}$

C) $\frac{67}{247}$

D) $\frac{67}{4693}$

E) $\frac{67}{494}$

69. Find $\frac{7}{9}$ decreased by $\frac{7}{11}$.

A) $1\frac{2}{9}$

B) $\frac{14}{99}$

C) $1\frac{7}{99}$

D) $\frac{14}{891}$

E) $\frac{7}{99}$

70. What is $\frac{9}{16}$ minus $\frac{1}{18}$?

A) $1\frac{73}{288}$

B) $1\frac{73}{144}$

C) $\frac{73}{144}$

D) $\frac{73}{288}$

E) $\frac{73}{81}$

71. Subtract:

$$\begin{array}{r} 4\frac{9}{13} \\ -\ 3\frac{6}{13} \\ \hline \end{array}$$

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

B) $2\frac{3}{13}$

C) $2\frac{1}{3}$

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

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

72. Subtract:

$$\begin{array}{r} 14\frac{7}{15} \\ -\ 10\frac{4}{15} \\ \hline \end{array}$$

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

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

C) $5\frac{3}{7}$

D) $4\frac{3}{7}$

E) $4\frac{1}{35}$

73. Subtract:

$$\begin{array}{r} 3\frac{7}{13} \\ -\quad 1 \\ \hline \end{array}$$

A) $3\frac{7}{13}$

B) $1\frac{7}{13}$

C) $1\frac{7}{26}$

D) $2\frac{7}{26}$

E) $2\frac{7}{13}$

74. Subtract:

$$\begin{array}{r} 7 \\ -\quad 2\frac{8}{9} \\ \hline \end{array}$$

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

B) $3\frac{1}{9}$

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

D) $4\frac{8}{9}$

E) $5\frac{8}{9}$

75. Subtract:

$$\begin{array}{r} 14\frac{2}{9} \\ -\ 8\frac{8}{11} \\ \hline \end{array}$$

A) $4\frac{49}{99}$

B) $5\frac{49}{99}$

C) $4\frac{98}{891}$

D) $5\frac{98}{891}$

E) $4\frac{49}{198}$

76. What is $2\frac{1}{3}$ less than $7\frac{1}{2}$?

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

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

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

D) $5\frac{1}{12}$

E) $5\frac{1}{18}$

77. Find the difference between $7\frac{7}{10}$ and $4\frac{1}{4}$.

A) $3\frac{27}{50}$

B) $2\frac{9}{20}$

C) $2\frac{27}{50}$

D) $2\frac{9}{140}$

E) $3\frac{9}{20}$

78. What is $11\frac{5}{12}$ minus $7\frac{1}{9}$?

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

B) $3\frac{11}{36}$

C) $3\frac{11}{180}$

D) $4\frac{11}{36}$

E) $4\frac{11}{180}$

79. A hospital dietician had a 50-pound bag of sugar at the beginning of the month. When taking inventory at the end of the month, the dietician notes that $13\frac{1}{4}$ pounds of sugar have been used. How much sugar remains?

A) $36\frac{3}{4}$ pounds

B) $37\frac{3}{4}$ pounds

C) $35\frac{3}{4}$ pounds

D) $34\frac{3}{4}$ pounds

E) $38\frac{3}{4}$ pounds

80. There are two surgical technicians responsible for cleaning and maintaining the sterility of the surgical instruments utilized during surgery. Prior to lunch, one surgical technician cleaned $\frac{1}{4}$ of the instruments and the other cleaned $\frac{1}{3}$ of the instruments. How much of the cleaning remains?

A) $\frac{5}{12}$ of the instruments remain to be cleaned

B) $\frac{6}{13}$ of the instruments remain to be cleaned.

C) $\frac{5}{3}$ of the instruments remain to be cleaned.

D) $\frac{7}{14}$ of the instruments remain to be cleaned

E) $\frac{5}{13}$ of the instruments remain to be cleaned

81. A 13 mile walkathon has three checkpoints. The first is $4\frac{1}{7}$ miles from the starting point. The second checkpoint is $5\frac{3}{8}$ miles from the first.

a. How many miles is it from the starting point to the second checkpoint?
b. How many miles is it from the second checkpoint to the finish line?

A) (a) $9\frac{29}{112}$ miles; (b) $3\frac{27}{56}$ miles

B) (a) $9\frac{29}{56}$ miles; (b) $4\frac{27}{56}$ miles

C) (a) $9\frac{29}{112}$ miles; (b) $4\frac{27}{112}$ miles

D) (a) $9\frac{29}{56}$ miles; (b) $3\frac{27}{56}$ miles

E) (a) $9\frac{29}{56}$ miles; (b) $4\frac{27}{112}$ miles

82. A patient with high blood pressure who weighs 168 pounds is put on a diet to lose 21 pounds in three months. The patient loses $10\frac{1}{8}$ pounds the first month and $9\frac{5}{8}$ pounds the second month. How much weight must be lost the third month for the goal to be achieved?

A) $2\frac{1}{4}$ pounds

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

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

D) $1\frac{1}{2}$ pounds

E) $3\frac{1}{2}$ pounds

83. A patient with high blood pressure who weighs 225 pounds is put on a diet to lose 28 pounds in 3 months. The patient loses $8\frac{2}{6}$ pounds the first month and $9\frac{3}{6}$ pounds the second month. How much weight must be lost the third month for the goal to be achieved?

A) $10\frac{1}{6}$ pounds

B) $5\frac{1}{6}$ pounds

C) $4\frac{1}{6}$ pounds

D) $10\frac{1}{3}$ pounds

E) $10\frac{1}{7}$ pounds

84. A patient with type 2 diabetes weighs 315 pounds and is advised to follow a prescribed nutrition plan in order to lose weight. During the first month of the diet, weekly losses were recorded as follows: $5\frac{1}{4}$ pounds, $5\frac{3}{4}$ pounds, 3 pounds, and $4\frac{1}{2}$ pounds. What is the patient's weight at the end of the month?

A) $296\frac{1}{2}$ pounds

B) $297\frac{1}{2}$ pounds

C) $295\frac{1}{2}$ pounds

D) $298\frac{1}{2}$ pounds

E) $294\frac{1}{2}$ pounds

85. Multiply:

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

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

B) $\frac{1}{10}$

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

D) $\frac{1}{15}$

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

86. Multiply:

$$\frac{1}{3} \times \frac{5}{8}$$

A) $\frac{5}{72}$

B) $\frac{5}{48}$

C) $\frac{5}{24}$

D) $1\frac{5}{48}$

E) $1\frac{5}{24}$

87. Multiply $\frac{1}{6}$ and $\frac{17}{18}$.

A) $\frac{17}{216}$

B) $\frac{17}{108}$

C) $\frac{19}{108}$

D) $1\frac{17}{216}$

E) $1\frac{17}{108}$

88. Find the product of $\frac{12}{35}$ and $\frac{7}{72}$.

A) $\frac{1}{10}$

B) $\frac{1}{60}$

C) $\frac{1}{30}$

D) $1\frac{1}{60}$

E) $1\frac{1}{30}$

89. What is $\frac{2}{3}$ times $\frac{2}{7}$?

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

B) $\frac{2}{21}$

C) $\frac{4}{21}$

D) $\frac{5}{84}$

E) $\frac{4}{63}$

90. Multiply:

$3 \times \frac{5}{9}$

A) $1\frac{2}{3}$

B) $1\frac{5}{27}$

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

D) $3\frac{5}{9}$

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

91. Multiply:

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

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

B) $3\frac{1}{7}$

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

D) $\frac{3}{7}$

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

92. Multiply:

$$\frac{5}{9} \times 2\frac{3}{5}$$

A) $1\frac{22}{45}$

B) $1\frac{2}{9}$

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

D) $1\frac{4}{15}$

E) $1\frac{8}{15}$

93. Multiply:

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

A) $3\frac{9}{32}$

B) $3\frac{9}{16}$

C) $3\frac{19}{32}$

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

E) $3\frac{5}{8}$

94. Multiply:

$5 \times 4\frac{4}{7}$

A) $22\frac{6}{7}$

B) $5\frac{6}{7}$

C) $22\frac{4}{7}$

D) $5\frac{4}{7}$

E) $22\frac{16}{35}$

95. Multiply:

$2 \times 2\frac{2}{7}$

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

B) $2\frac{4}{7}$

C) $4\frac{2}{7}$

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

E) $4\frac{4}{7}$

96. Multiply:

$6\frac{5}{7} \times 9$

A) $60\frac{10}{21}$

B) $60\frac{3}{7}$

C) $9\frac{5}{7}$

D) $60\frac{5}{7}$

E) $9\frac{10}{21}$

97. Multiply:

$4\frac{5}{7} \times 4$

A) $4\frac{5}{7}$

B) $5\frac{5}{7}$

C) $18\frac{5}{7}$

D) $18\frac{6}{7}$

E) $\frac{5}{7}$

98. Multiply:

$1\frac{4}{9} \times 0$

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

B) 1

C) 0

D) Undefined

E) 36

99. Multiply:

$4\frac{4}{5} \times 1\frac{1}{6}$

A) $5\frac{11}{15}$

B) $5\frac{3}{10}$

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

D) $5\frac{11}{30}$

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

100. Multiply $4\frac{1}{4}$ and $5\frac{1}{2}$.

A) $23\frac{3}{16}$

B) $23\frac{3}{8}$

C) $23\frac{1}{2}$

D) $23\frac{5}{16}$

E) $23\frac{5}{8}$

101. Find the product of $4\frac{1}{3}$ and $\frac{2}{7}$.

A) $1\frac{29}{210}$

B) $1\frac{5}{42}$

C) $1\frac{9}{35}$

D) $1\frac{5}{21}$

E) $1\frac{29}{105}$

102. What is $4\frac{3}{8}$ times $4\frac{1}{4}$?

A) $18\frac{19}{32}$

B) $18\frac{19}{64}$

C) $18\frac{21}{32}$

D) $18\frac{23}{64}$

E) $18\frac{23}{32}$

103. Salmon costs \$3 per pound. Find the cost of $3\frac{2}{3}$ pounds of salmon.

A) \$10.00
B) \$8.00
C) \$11.00
D) \$10.67
E) \$11.67

104. Maria Rivera can walk $2\frac{1}{2}$ miles in 1 hour. At this rate, how far can Maria walk in $\frac{1}{2}$ hour?

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

B) $1\frac{1}{2}$ miles

C) $2\frac{1}{4}$ miles

D) $1\frac{2}{4}$ miles

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

105. The perimeter of a square is equal to 4 times the length of a side of the square. Find the perimeter of a square whose side measures $14\frac{1}{8}$ inches.

A) $56\frac{1}{4}$ inches

B) $56\frac{1}{2}$ inches

C) $55\frac{1}{2}$ inches

D) $55\frac{1}{4}$ inches

E) $55\frac{1}{8}$ inches

106. As a radiology technician, it takes you 10 minutes or $\frac{1}{6}$ hour to take a chest x-ray. Your schedule requires that you complete 25 x-rays today. How many hours will it take to complete your scheduled x-rays?

A) $4\frac{1}{6}$ hours

B) $5\frac{1}{6}$ hours

C) $3\frac{1}{6}$ hours

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

E) $2\frac{1}{6}$ hours

107. A patient is to receive an IV infusion of 500 milliliters of normal saline over a period of 12 hours. A nurse checks on the patient after $\frac{2}{4}$ of the bag has been infused. How many milliliters of fluid has the patient received? How many hours have passed since the IV was started?

A) 250 milliliters; 6 hours
B) 500 milliliters; 12 hours
C) 510 milliliters; 14 hours
D) 300 milliliters; 9 hours
E) 250 milliliters; 9 hours

108. The area of a rectangle is equal to the product of the length of the rectangle times its width. Find the area of a rectangle that has a length of $4\frac{2}{5}$ miles and a width of $5\frac{1}{5}$ miles. The area will be in square miles.

A) $22\frac{12}{25}$ sq mi

B) $22\frac{11}{25}$ sq mi

C) $22\frac{23}{25}$ sq mi

D) $22\frac{22}{25}$ sq mi

E) $22\frac{24}{25}$ sq mi

109. A family budgets $\frac{1}{3}$ of its monthly income of $2250 per month for housing and utilities.

a. What amount is budgeted for housing and utilities?

b. What amount remains for purposes other than housing and utilities?

A) (a)$250; (b)$2000

B) (a)$250; (b)$1500

C) (a)$1000; (b)$1250

D) (a)$750; (b)$1500

E) (a)$1500; (b)$750

110. The Booster Club is making 20 capes for the members of the high school marching band. Each cape is $1\frac{5}{8}$ yards of material at a cost of $16 per yard. Find the total cost of the material.

A) $325

B) $10

C) $320

D) $26

E) $520

111. Divide:

$$0 \div \frac{1}{4}$$

A) 16
B) 1
C) Undefined
D) 0
E) $\frac{1}{4}$

112. Divide:

$$\frac{1}{3} \div \frac{1}{15}$$

A) $\frac{1}{45}$
B) 5
C) 0
D) Undefined
E) $\frac{1}{90}$

113. Divide:

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

A) $\frac{1}{2}$
B) $\frac{1}{18}$
C) $\frac{1}{4}$
D) $\frac{1}{9}$
E) $\frac{1}{6}$

114. Divide:

$$\frac{11}{18} \div \frac{3}{22}$$

A) $4\frac{13}{54}$

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

C) $4\frac{13}{27}$

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

E) $4\frac{26}{27}$

115. Divide:

$$\frac{5}{2} \div \frac{7}{6}$$

A) $\frac{7}{15}$

B) $\frac{35}{12}$

C) $\frac{15}{7}$

D) 1

E) $\frac{12}{35}$

116. Divide $\frac{3}{10}$ by $\frac{1}{4}$.

A) $1\frac{2}{5}$

B) $\frac{3}{40}$

C) $1\frac{1}{10}$

D) $\frac{3}{20}$

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

117. Find the quotient of $\frac{1}{3}$ and $\frac{7}{27}$.

A) $\frac{7}{81}$

B) $1\frac{2}{7}$

C) $1\frac{1}{7}$

D) $\frac{14}{81}$

E) $1\frac{4}{7}$

118. Divide:

$$15 \div \frac{3}{4}$$

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

B) $11\frac{1}{4}$

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

D) 20

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

119. Divide:

$$\frac{3}{7} \div 9$$

A) $\frac{1}{7}$

B) 21

C) $\frac{1}{63}$

D) 63

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

120. Divide:

$$8 \div 6\frac{2}{7}$$

A) $50\frac{4}{7}$

B) $50\frac{2}{7}$

C) $1\frac{3}{22}$

D) $1\frac{3}{11}$

E) $1\frac{6}{11}$

121. Divide:

$$9\frac{1}{6} \div \frac{1}{6}$$

A) 1

B) $1\frac{19}{36}$

C) 55

D) $1\frac{19}{72}$

E) $55\frac{19}{36}$

122. Divide:

$$\frac{3}{5} \div 3\frac{6}{11}$$

A) $2\frac{14}{55}$

B) $2\frac{7}{55}$

C) $\frac{11}{130}$

D) $\frac{11}{65}$

E) $\frac{22}{65}$

123. Divide:

$$7\frac{7}{15} \div 5$$

A) $1\frac{37}{150}$

B) $37\frac{1}{3}$

C) $1\frac{37}{75}$

D) $37\frac{1}{6}$

E) $1\frac{74}{75}$

124. Divide:

$$5\frac{1}{2} \div 4\frac{1}{4}$$

A) $1\frac{5}{17}$

B) $23\frac{3}{8}$

C) $1\frac{5}{34}$

D) $23\frac{3}{4}$

E) $1\frac{10}{17}$

125. Divide $10\frac{10}{13}$ by $4\frac{1}{2}$.

A) $2\frac{23}{117}$

B) $48\frac{6}{13}$

C) $2\frac{46}{117}$

D) $48\frac{12}{13}$

E) $2\frac{92}{117}$

126. Find the quotient of $5\frac{1}{4}$ and $1\frac{1}{5}$.

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

B) $6\frac{3}{10}$

C) $4\frac{3}{16}$

D) $6\frac{3}{5}$

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

127. Individual cereal boxes contain $\frac{5}{8}$ ounce of cereal. How many boxes can be filled with 1165 ounces of cereal?

A) $728\frac{1}{8}$

B) 1864

C) $1864\frac{1}{4}$

D) $728\frac{1}{4}$

E) 728

128. A car traveled 63 miles in $2\frac{1}{4}$ hours. What was the car's average speed in miles per hour?

A) 10 mph
B) 31 mph
C) 141 mph
D) 126 mph
E) 28 mph

129. The Inverness Investor Group bought $4\frac{4}{7}$ acres of land for $25,600. What was the cost of each acre?

A) $117,028
B) $147,200
C) $25,600
D) $6400
E) $5600

130. A car used $14\frac{4}{5}$ gallons of gasoline on a 814-mile trip. How many miles can the car travel on 1 gallon of gasoline?

A) 54 miles
B) 162 miles
C) 1 mile
D) 55 miles
E) 53 miles

131. The doctor uses $1\frac{1}{2}$ feet of a self-adherent gauze wrap to bandage a patient's foot after minor foot surgery. If a new role of this gauze wrap is 12 feet long, how many $1\frac{1}{2}$-foot-long bandages could be cut from a roll?

A) 8 bandages
B) 9 bandages
C) 7 bandages
D) 10 bandages
E) 6 bandages

132. The Hammond Company purchased $8\frac{3}{4}$ acres for a housing project. One and a half acres were set aside for a park.

a. How many acres are available for housing?

b. How many $\frac{1}{4}$ acre parcels of land can be sold after the land for the park is set aside?

A) (a) $7\frac{1}{4}$ acres; (b) 33 parcels

B) (a) $8\frac{1}{4}$ acres; (b) 33 parcels

C) (a) $8\frac{1}{4}$ acres; (b) 29 parcels

D) (a) $7\frac{1}{4}$ acres; (b) 29 parcels

E) (a) 8 acres; (b) 32 parcels

133. A nursing home cafeteria director purchases white sugar in 50-pound bags. Each bag of sugar contains about 80 cups. If it takes $1\frac{1}{3}$ cups of sugar for every gallon of sweet tea served, how many gallons of tea can be made with 50 pounds of sugar?

A) 60 gallons of tea
B) 61 gallons of tea
C) 59 gallons of tea
D) 62 gallons of tea
E) 58 gallons of tea

134. There are 15 patients on the second floor at a nursing home. Each patient has been prescribed $1\frac{1}{2}$ ounces of a certain medication.

a. If one bottle of this medication contains 12 ounces of medication, will one bottle be enough to fill this order for all 15 patients?
b. How many doses can be given from one bottle?

A) **a**. No
b. 8

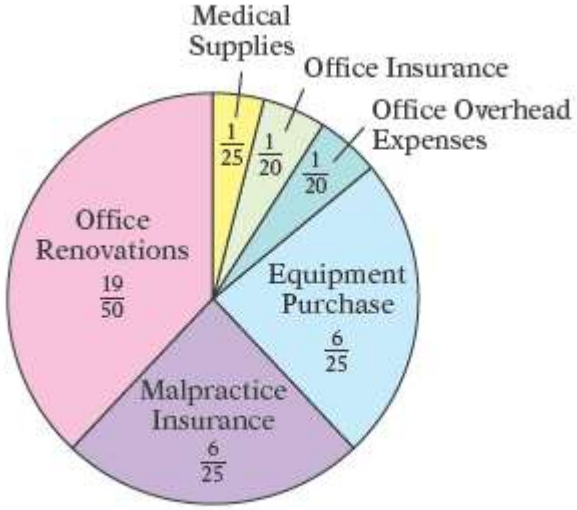
B) **a**. No
b. 9

C) **a**. No
b. 7

D) **a**. No
b. 6

E) **a**. No
b. 10

135. Your health insurance reimbursed your doctor $\frac{3}{5}$ of the billed amount for an office visit. You paid $\frac{2}{6}$ of the billed amount when you saw the doctor. What fractional amount of the bill remains to be paid?



How Money Is Borrowed and Spent on New Office

A) $\frac{1}{15}$
B) $\frac{2}{15}$
C) $\frac{2}{25}$
D) $\frac{15}{1}$
E) $\frac{1}{5}$

136. Place the correct symbol, < or >, between the two numbers.
$\frac{16}{37}$ $\frac{22}{37}$
A) $\frac{16}{37} < \frac{22}{37}$
B) $\frac{16}{37} > \frac{22}{37}$

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

$\frac{77}{95} \quad \frac{14}{95}$

A) $\frac{77}{95} < \frac{14}{95}$

B) $\frac{77}{95} > \frac{14}{95}$

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

$\frac{4}{5} \quad \frac{9}{20}$

A) $\frac{4}{5} > \frac{9}{20}$

B) $\frac{4}{5} < \frac{9}{20}$

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

$\frac{11}{20} \quad \frac{6}{7}$

A) $\frac{11}{20} > \frac{6}{7}$

B) $\frac{11}{20} < \frac{6}{7}$

140. Simplify:

$\left(\frac{7}{10}\right)^2$

A) $\frac{49}{50}$

B) $\frac{49}{100}$

C) $\frac{49}{200}$

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

E) $\frac{7}{100}$

141. Simplify:

$$\left(\frac{2}{3}\right)\left(\frac{1}{2}\right)^4$$

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

B) $\frac{1}{24}$

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

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

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

142. Simplify:

$$\left(\frac{1}{3}\right)^4 \cdot \left(\frac{8}{11}\right)^2$$

A) $\frac{64}{1089}$

B) $\frac{64}{3267}$

C) $\frac{64}{9801}$

D) $\frac{64}{363}$

E) $\frac{64}{891}$

143. Simplify:

$$\left(\frac{4}{9}\right) \cdot \left(\frac{9}{10}\right)^2 \cdot \left(\frac{10}{11}\right)$$

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

B) $\frac{55}{18}$

C) $\frac{18}{55}$

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

E) $\frac{4}{11}$

144. Simplify:

$$3 \cdot \left(\frac{1}{2}\right)^3 \cdot \left(\frac{1}{3}\right)^2$$

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

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

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

D) 27

E) $\frac{1}{24}$

145. Simplify:

$$\left(\frac{5}{6}\right)^2 - \frac{7}{20}$$

A) $\frac{497}{1440}$

B) $\frac{31}{180}$

C) $\frac{31}{90}$

D) $1\frac{31}{180}$

E) $1\frac{31}{90}$

146. Simplify:

$$\left(\frac{11}{12}\right)\cdot\left(\frac{4}{5}-\frac{1}{12}\right)+\frac{13}{36}$$

A) $2\frac{13}{720}$

B) $1\frac{13}{1440}$

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

D) $2\frac{13}{1440}$

E) $1\frac{13}{720}$

147. Simplify:

$$\frac{7}{12}-\left(\frac{2}{3}\right)^2+\frac{5}{8}$$

A) $1\frac{55}{144}$

B) $\frac{55}{144}$

C) $\frac{331}{432}$

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

E) $1\frac{55}{72}$

148. Simplify:

$$\frac{3}{4}\cdot\left(\frac{4}{9}\right)^2+\frac{1}{2}$$

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

B) $1\frac{5}{12}$

C) $1\frac{181}{216}$

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

E) $\frac{35}{54}$

149. Simplify:

$$\left(\frac{1}{5}+\frac{6}{7}\right)\div\frac{8}{11}$$

A) $2\frac{127}{560}$

B) $1\frac{127}{560}$

C) $1\frac{129}{280}$

D) $1\frac{127}{280}$

E) $2\frac{127}{280}$

150. Simplify:

$$\frac{160}{321}\div\left(\frac{322}{963}+\frac{160}{321}\right)$$

A) $\frac{240}{803}$

B) $\frac{120}{803}$

C) $\frac{481}{1606}$

D) $1\frac{120}{803}$

E) $\frac{240}{401}$

151. A nurse at a medical spa records the monthly weight loss of clients. If a client loses $2\frac{1}{4}$ pounds in May, $1\frac{1}{4}$ pounds in June, and $1\frac{1}{4}$ pounds in July, find the client's total weight loss for these three months.

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

B) $5\frac{3}{4}$ pounds

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

D) $6\frac{3}{4}$ pounds

E) $2\frac{3}{4}$ pounds

152. A 15-mile "Race for the Cure" event has three checkpoints. The first checkpoint is $1\frac{1}{4}$ miles from the starting point. The second checkpoint is $4\frac{1}{4}$ miles from the first checkpoint. How many miles is the second checkpoint from the finish line?

A) $9\frac{1}{2}$ miles

B) $10\frac{1}{2}$ miles

C) $9\frac{3}{2}$ miles

D) $9\frac{1}{3}$ miles

E) $5\frac{1}{2}$ miles

153. An ambulance gets 10 miles on each gallon of gasoline. How many miles can the ambulance travel on $32\frac{1}{2}$ gallons of gasoline?

A) 325 miles
B) 375 miles
C) 275 miles
D) 650 miles
E) 335 miles

154. A radiologist earns $300 for each day worked. What is the total of the radiologist's earnings for working $6\frac{1}{2}$ days?

A) $1950.00
B) $2000.00
C) $1900.00
D) $3900.00
E) $1975.00

155. A roll of adhesive tape is 46 feet long. How many $\frac{1}{4}$-foot sections can be cut from this roll?

A) 184 sections
B) 194 sections
C) 174 sections
D) 196 sections
E) 189 sections

156. A nurse's aide is monitoring closely the weight loss of a geriatric patient who weighed 60 pounds when admitted to the floor. The patient lost $1\frac{1}{6}$ pounds the first week and $\frac{1}{3}$ pound the second week. How much does the patient weigh at the end of the second week?

A) $58\frac{1}{2}$ pounds
B) $57\frac{1}{2}$ pounds
C) $59\frac{1}{4}$ pounds
D) $58\frac{1}{8}$ pounds
E) $58\frac{1}{6}$ pounds

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. C
14. A
15. B
16. E
17. D
18. E
19. A
20. C
21. D
22. B
23. C
24. D
25. A
26. E
27. C
28. E
29. A
30. B
31. E
32. A
33. B
34. B
35. C
36. A
37. A
38. D
39. C
40. C
41. D
42. B
43. E
44. B

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

91. D
92. C
93. B
94. A
95. E
96. B
97. D
98. C
99. E
100. B
101. D
102. A
103. C
104. A
105. B
106. A
107. A
108. D
109. D
110. E
111. D
112. B
113. A
114. C
115. C
116. E
117. B
118. D
119. E
120. D
121. C
122. D
123. C
124. A
125. C
126. A
127. B
128. E
129. E
130. D
131. A
132. D
133. A
134. A
135. A
136. A

137. B
138. A
139. B
140. B
141. B
142. C
143. C
144. E
145. C
146. E
147. D
148. E
149. D
150. E
151. A
152. A
153. A
154. A
155. A
156. A