

Answer Key

1.
$$\begin{array}{r} 3\frac{4}{30} \\ + 2\frac{1}{30} \\ \hline 5\frac{5}{30} = 5\frac{1}{6} \end{array}$$
2.
$$\begin{array}{r} 1\frac{14}{18} \\ + 3\frac{15}{18} \\ \hline 4\frac{29}{18} = 5\frac{11}{18} \end{array}$$
3.
$$\begin{array}{r} 3\frac{62}{70} \\ + 2\frac{49}{70} \\ \hline 5\frac{111}{70} = 6\frac{41}{70} \end{array}$$
4.
$$\begin{array}{r} 1\frac{11}{18} \\ + \frac{1}{3} \\ \hline 1\frac{17}{18} \end{array}$$
5.
$$\begin{array}{r} 2\frac{23}{24} \\ + \frac{2}{3} \\ \hline 3\frac{39}{24} = 3\frac{13}{8} (=1\frac{5}{8}) \end{array}$$
6.
$$\begin{array}{r} 3\frac{2}{3} \\ + 100\frac{5}{12} \\ \hline 103\frac{13}{12} = 104\frac{1}{12} \end{array}$$
7.
$$\begin{array}{r} 3\frac{4}{4} \\ + \frac{5}{16} \\ \hline 3\frac{17}{16} (=1\frac{1}{16}) \end{array}$$
8.
$$\begin{array}{r} 5\frac{6}{6} \\ + \frac{3}{12} \\ \hline 5\frac{19}{12} (=1\frac{7}{12}) \end{array}$$
9.
$$\begin{array}{r} 7\frac{10}{10} \\ + \frac{1}{6} \\ \hline 7\frac{26}{30} = 7\frac{13}{15} \end{array}$$
10.
$$\begin{array}{r} 15\frac{15}{20} \\ + \frac{14}{20} \\ \hline 15\frac{29}{20} = 16\frac{9}{20} \end{array}$$
11.
$$\begin{array}{r} 4\frac{30}{30} \\ + \frac{21}{30} \\ \hline 4\frac{51}{30} = 5\frac{5}{6} \end{array}$$
12.
$$\frac{97}{150}$$
13.
$$\begin{array}{r} \frac{1}{6} + \frac{2}{12} \\ + \frac{1}{4} + \frac{3}{12} \\ \hline \frac{5}{12} \end{array}$$
14.
$$\begin{array}{r} 3\frac{4}{4} \\ + \frac{1}{6} \\ \hline 3\frac{5}{6} = 4\frac{11}{12} \end{array}$$
15.
$$\begin{array}{r} 3\frac{4}{4} \\ + \frac{1}{6} \\ \hline 3\frac{5}{6} = 4\frac{11}{12} \end{array}$$

16.
$$\begin{array}{r} \frac{3}{8} \\ + \frac{1}{6} \\ \hline \frac{13}{24} \end{array}$$
17.
$$\begin{array}{r} 300\frac{21}{60} \\ + 100\frac{4}{60} \\ \hline 400\frac{25}{60} = 400\frac{5}{12} \end{array}$$
18. 41
19. 15
20. 2 R 1
21. 203
22. 48
23. 189
24. 2040
25. 61
26. 12
27. 9
28. 24
29. 11
30. 12
31. 70
32. 18
33. 7
34. 60
35. 32
36. 120
37. 12
38. $8 \div 4 = 2$
 $8 \div 8 = 1$
 $2 + 1 = 3$ hrs
39. 20 min = $\frac{1}{3}$ hr
 $54 \times \frac{1}{3} = 18$ mi
40. 7:45 pm - 2:15 pm = 5.5 hr
5.5 hr - 0.5 hr = 5 hr
 $5 \times 60 = 300$ (miles)
41. $8 \times 2\frac{1}{2} = 20$ miles
 $\frac{20}{5} = 4$
 $4 - 2\frac{1}{2} = 1\frac{1}{2}$ hours
42. $5\frac{2}{3} \times 60 = 340$ (miles)
43. $275 \div 50 = 5.5$
 $5.5 + 1 = 6.5$
 $6.5 + 10 = 16.5 = 4:30$ pm
44. $21 \div 3 = 7$
 $7 \times 140 = 980$ (words)

45. $280 \div 140 = 2$
 $2 \times 3 = 6$
 $6 \times 5 = 30$ min
46. $84 \div 4 = 21$
 $21 \times 5 = 105$ (miles)
47. $60 \div 3 = 20$
 $20 \times 5 = 100$ (miles)
48. The van can travel 210 miles, while the car can travel 200 miles. So, the van can travel longer distance.
49. $192 \div 8 = 24$ miles per gallon
 $120 \times 5 = 600$ miles
 $600 \div 24 = 25$ gallons
50. 1st: 2
2nd: 4
3rd: 8
4th: 16
5th: 32
6th: 64
51. $2 + 4 + 8 + 16 + 32 + 64 = 126$
mi
52. $55 - 30 + 5^2 = 55$

	increment from the previous night	#nickels
1 st night	$1 = 1^2$	1
2 nd night	$4 = 2^2$	5
3 rd night	$9 = 3^2$	14
4 th night	$16 = 4^2$	30
5 th night	$25 = 5^2$	55

53. 385 See the following table.

	increment from the previous night	#nickels
1 st night	$1 = 1^2$	1
2 nd night	$4 = 2^2$	5
3 rd night	$9 = 3^2$	14
4 th night	$16 = 4^2$	30
5 th night	$25 = 5^2$	55
6 th night	$36 = 6^2$	91
7 th night	$49 = 7^2$	140
8 th night	$64 = 8^2$	204
9 th night	$81 = 9^2$	285
10 th night	$100 = 10^2$	385

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54. See the following table.

Bush	pay
1 st	0.01
2 nd	0.02
3 rd	0.04
4 th	0.08
5 th	0.16
6 th	0.32
7 th	0.64
8 th	1.28
9 th	2.56
10 th	5.12 ← answer

55. 10.23

56. Monday: 3

Tuesday: 6

Wednesday: 12

Thursday: 24

Friday: 48 pennies

$$3 + 6 + 12 + 24 + 48 = 93$$

57. $6 \div 1\frac{1}{2} = 6 \div 1.5 = 4$

$$70 \times 4 = 280 \text{ marbles}$$

58. Page 30 and 31

$$30 \times 31 = \underline{930}$$

59. $10 \times 2 \times (1 - \frac{1}{2}) = 10$

$$10 \times 2 \times (1 - \frac{2}{5}) = 12$$

$$10 \times 1 \times (1 - \frac{1}{5}) = 8$$

$$10 + 12 + 8 = 30 \text{ (jelly beans)}$$

60. $2001 - 1994 = 7$

$$2 + 7 = 9 \text{ yrs old}$$

61. $5 \times 13 = 65$

$$80 - 65 = 15$$

(underestimates)

$$8 - 5 = 3 \text{ (more points)}$$

$$15 \div 3 = 5 \text{ (withes)}$$

$$13 - 5 = 8 \text{ (j-o-l)}$$

62. $25 + 5 = 30$

$$5 + 5 = 10$$

$$30 = 10 \times 3$$

It is 5 days later.

63. $440 \div 5.5 = 80 \text{ pg}$

64. $6 \times 30 = 180 \text{ hr} = 7\frac{1}{2} \text{ (days)}$

65. $8 \times 2.5 = 20$

$$8 + 20 = 28$$

66. $8 \times 60 \times 60 = 28800 \text{ sec}$

67. $128 \div 2 = 64$

$$64 \div 2 = 32$$

$$32 \div 2 = 16$$

$$16 \div 2 = 8 \text{ (4th bounce)}$$

68. $50 - 18.59 - 22.79 = \$8.62$

69. $40 \times 3 = 120$

$$120 \times 70 = \underline{8400 \text{ squar feet}}$$

70. $140 \div 7 = 20$

$$20 \div 8 = 2\frac{1}{2} \text{ cups}$$

71. $60 - 6 = 54$

$$54 - 6 = 48$$

72. $4 + 4 = 8$

Bob is 8 years older than Connie.

$$4 + 8 = 12$$

$$165 - 12 = 153$$

$$153 \div 3 = 51 \text{ (Connie)}$$

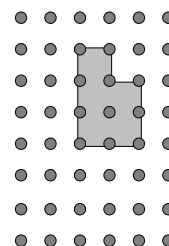
$$51 + 4 = 55 \text{ (Jim)}$$

$$55 + 4 = 59 \text{ (Bob)}$$

73. $9 \times \frac{2}{3} = 6 \text{ (cups)}$

$$6 \times 2 = \underline{12 \text{ (cups) Container A}}$$

74. See the following diagram.



75. $500 \times 2 \times 2 \times 2 \times 2 \times 2 = \$32,000$

76. \$4.15

77. You may have different ways.

Listed below are 5 common ways.



78. GCF = 2, LCM = 28

79. GCF = 11, LCM = 154

80. GCF = 7, LCM = 196

81. GCF = 3, LCM = 30

82. GCF = 7, LCM = 140

83. GCF = 7, LCM = 273

84. GCF = 13, LCM = 78

85. GCF = 5, LCM = 50

86. GCF = 4, LCM = 156

87. GCF = 3, LCM = 105

Answer Key

1. 12
2. 4
3. 25
4. 125
5. 280
6. 320
7. 288
8. 1000
9. 1440
10. 48
11. 70
12. 3
13. 3
14. 12
15. 16
16. 2
17. 15
18. 63
19. 32
20. 100

$$21. \frac{\frac{13}{24} - \frac{3}{8}}{\frac{4}{24} - \frac{1}{6}} = \frac{2\frac{20}{48} - 1\frac{39}{48}}{\frac{29}{48}} = 1\frac{68}{48}$$

$$23. \frac{7\frac{15}{20} - 1\frac{11}{20}}{\frac{1}{6} - \frac{1}{5}} = \frac{6\frac{4}{20}}{\frac{1}{30}} = 2\frac{20}{24}$$

$$24. \frac{5\frac{20}{24} - 3\frac{9}{24}}{2\frac{11}{24}} = \frac{2\frac{11}{24}}{2\frac{11}{24}} = 1$$

$$25. \frac{7\frac{16}{16} - 3\frac{8}{16}}{\frac{1}{16}} = \frac{4\frac{8}{16}}{\frac{1}{16}} = 5\frac{8}{16}$$

$$26. \frac{3\frac{3}{25} - \frac{20}{25}}{2\frac{8}{25}} = \frac{1\frac{28}{25}}{2\frac{8}{25}} = \frac{1\frac{28}{25}}{2\frac{8}{25}}$$

$$27. \frac{2\frac{16}{32} - \frac{31}{32}}{1\frac{17}{32}} = \frac{1\frac{48}{32} - \frac{31}{32}}{1\frac{17}{32}} = \frac{1\frac{17}{32}}{1\frac{17}{32}} = 1$$

$$28. \frac{\frac{7}{6} - \frac{5}{24}}{1\frac{23}{24}} = \frac{1\frac{23}{24}}{1\frac{23}{24}} = 1$$

$$29. \frac{\frac{2}{3} - \frac{1}{10}}{\frac{17}{30}} = \frac{\frac{13}{30}}{\frac{17}{30}} = \frac{13}{17}$$

$$30. \frac{\frac{5}{8} - \frac{1}{3}}{\frac{7}{24}} = \frac{\frac{11}{24}}{\frac{7}{24}} = \frac{11}{7}$$

$$31. \frac{\frac{3}{8} - \frac{1}{6}}{\frac{5}{24}} = \frac{\frac{1}{24}}{\frac{5}{24}} = \frac{1}{5}$$

$$32. \frac{\frac{3}{5} - \frac{1}{15}}{\frac{4}{15}} = \frac{\frac{2}{15}}{\frac{4}{15}} = \frac{2}{4} = \frac{1}{2}$$

$$33. \frac{\frac{30}{24} - \frac{20}{24}}{\frac{10}{24}} = \frac{\frac{10}{24}}{\frac{10}{24}} = 1$$

$$34. \frac{\frac{5}{30} - \frac{5}{30}}{\frac{11}{30}} = \frac{0}{\frac{11}{30}} = 0$$

$$35. \frac{\frac{9}{48} - \frac{12}{48}}{\frac{9}{48} - \frac{3}{16}} = \frac{-\frac{3}{48}}{\frac{9}{48} - \frac{9}{48}} = \frac{-\frac{3}{48}}{0}$$

$$36. \frac{\frac{21}{24} - \frac{10}{24}}{\frac{11}{24}} = \frac{\frac{11}{24}}{\frac{11}{24}} = 1$$

$$37. \frac{\frac{28}{60} - \frac{15}{60}}{\frac{13}{60}} = \frac{\frac{13}{60}}{\frac{13}{60}} = 1$$

$$38. \frac{\frac{13}{48}}{\frac{3}{4}} = \frac{13}{48} \cdot \frac{4}{3} = \frac{13}{36}$$

$$39. \frac{\frac{1}{8} - \frac{1}{8}}{\frac{5}{8}} = \frac{0}{\frac{5}{8}} = 0$$

$$40. \frac{13}{8} + 2\frac{7}{8} + 1\frac{5}{8} = 5\frac{7}{8} \text{ yards}$$

$$41. 30 + 50\frac{3}{8} + 40\frac{1}{6} + 60\frac{1}{4} = 180 + (\frac{3}{8} + \frac{1}{6} + \frac{1}{4}) = 180 + \frac{9+4+6}{24} = 180\frac{19}{24}$$

$$42. 124 - 16 = 108$$

$$108 + 124 = 232 \text{ sec}$$

$$43. 11:20 - 8:15 = 3 \text{ hr } 5 \text{ min}$$

$$44. 2:25 \text{ pm} + 0:55 = 3:20 \text{ pm}$$

$$45. 1:20 + 4:10 = 5:30 \text{ pm}$$

$$46. 11:20 - 1:35 = 9:45 \text{ am}$$

$$47. 11:15 - 9:30 = 1:45 \text{ pm}$$

$$48. 4.5 \text{ hrs}$$

$$49. 15 \div 4 = 3\frac{3}{4} \text{ hrs} = 3 \text{ hr and } 45 \text{ min}$$

$$50. 8:45 + 8:45 = 17:30 = 5:30 \text{ pm}$$

$$51. 4 \times 12 \div 3 = 16$$

$$52. 16 + 12 + 9 + 19 = 56$$

$$53. 7:55 + 1:15 = 8:70 \text{ pm} = 9:10 \text{ pm}$$

$$54. 2:40 \text{ pm} - 4:10 = 10:30 \text{ am}$$

$$55. 7 \text{ days}$$

$$56. 3 \times 3 = 9 \text{ (miles)}$$

$$57. 10:45 - 9:07 = 1:38 = 1 \text{ hr } 38 \text{ min}$$

$$58. 10:55 \text{ am}$$

$$59. 1:15 \text{ pm} = 13:15$$

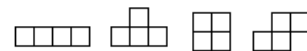
$$13:15 - 11:30 = 1 \text{ hr } 45 \text{ min}$$

$$60. 1:15 + 0:35 = 1:50 \text{ pm}$$

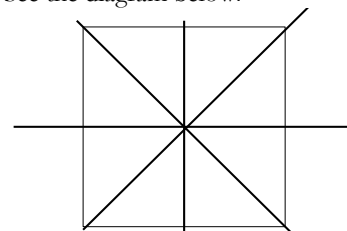
$$61. 1:20 \text{ pm} + 4:10 = 5:30 \text{ pm}$$

62. The sum of each row, column, or diagonal is **15**, which is the magic number.

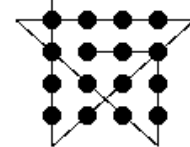
63. Answers may vary. A sample answer:



64. See the diagram below.



65. See the following diagram.



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66. See the following diagram.



67. $2 \times 6 + 3 \times 7 + 5 \times 8 = 12 + 21 + 40 = 73$

$73 \div 10 = 7.3 \text{ ft}$

68. $3.25 \times 4 = 13$ (cost of specials)
 $.8 \times 6 = 4.8$ (cost of eggs)
 $13 + 4.8 = \$17.80$

69. different

70. 48

71. $1 - \frac{1}{3} = \frac{2}{3}$

$30 \div 2 = 15$

$15 \times 3 = 45 \text{ cows}$

72. $10 \div 5 = 2$

$20 \div 4 = 5$

$5 - 2 = \$3$ (profit for each pair)

$60 \div 3 = 20$ (pairs sold)

73. 0. **9 3 7 8 6**

74. 4, 12, 36

75. $2(3 \times 2 + 2 \times 5 + 5 \times 3) = 2(6 + 10 + 15) = 62 \text{ ft}^2$

76. $\frac{1}{12} \times 360 = 30$

$30 \times 5 = 150^\circ$

77. $\frac{1}{12} \times 360 = 30$

$30 \times \frac{6}{12} = 30 \times \frac{1}{2} = 15^\circ$

78. $30 \times 2 = 60$

$60 + \frac{1}{2}(30) = 75$

79. $4 \times 30 = 120$

80. $30 \times 4 = 120$

$\frac{1}{2}(30) = 15$

$120 + 15 = 135$

81. (a) area = $3 \times 3 = 9 \text{ cm}^2$

(b) perimeter = $3 \times 4 + 4 = 16 \text{ cm}$

82. GCF = 8, LCM = 168

83. GCF = 2, LCM = 130

84. GCF = 6, LCM = 234

85. GCF = 2, LCM = 56

86. GCF = 2, LCM = 72

87. GCF = 4, LCM = 48

88. GCF = 8, LCM = 112

89. GCF = 12, LCM = 72

90. GCF = 6, LCM = 60

91. GCF = 8, LCM = 48

Answer Key

- | | | |
|---------------------|----------------------|---|
| 1. (D) antecedent | 42. (D) recognize | 83. (E) roam |
| 2. (B) adventurous | 43. (B) parry | 84. (I) unrest |
| 3. (E) antecedent | 44. (C) pose | 85. (D) recognize |
| 4. (A) addicted | 45. (E) roam | 86. (F) sloe |
| 5. (C) akin | 46. (C) posed | 87. (B) parry |
| 6. (D) antecedent | 47. (A) omission | 88. (G) subterranean |
| 7. (E) antecedents | 48. (E) roam | 89. (H) threshold |
| 8. (C) akin | 49. (D) recognized | 90. (J) yearling |
| 9. (A) addicted | 50. (B) parried | 91. D |
| 10. (B) adventurous | 51. (C) threshold | 92. A |
| 11. (B) biased | 52. (A) sloe | 93. B |
| 12. (D) clarion | 53. (D) unrest | 94. D |
| 13. (E) conquer | 54. (E) yearling | 95. A |
| 14. (C) bristle | 55. (B) subterranean | 96. D |
| 15. (A) attribute | 56. (D) unrest | 97. A |
| 16. (D) clarion | 57. (C) threshold | 98. D |
| 17. (B) biased | 58. (A) sloe | 99. D |
| 18. (C) bristled | 59. (B) subterranean | 100. B |
| 19. (E) conquered | 60. (E) yearling | 101. A |
| 20. (A) attribute | 61. (A) addicted | 102. B homophones |
| 21. (D) filthy | 62. (C) akin | 103. A antonyms |
| 22. (B) dispatch | 63. (I) clarion | 104. C same class |
| 23. (C) emotion | 64. (J) conquer | 105. B homophones |
| 24. (E) gaze | 65. (B) adventurous | 106. C part/whole |
| 25. (A) decorous | 66. (D) antecedent | 107. A synonyms |
| 26. (D) filthy | 67. (E) antecedent | 108. B antonyms |
| 27. (B) dispatch | 68. (G) biased | 109. C homophones |
| 28. (C) emotions | 69. (F) attribute | 110. B |
| 29. (E) gazed | 70. (H) bristle | 111. syn key: C E A D B
ant key: A B D E C |
| 30. (A) decorous | 71. (E) gaze | 112. syn key: D C B A E
ant key: D A B C E |
| 31. (B) incidence | 72. (I) manner | 113. syn key: C E A D B
ant key: C A B D E |
| 32. (A) hew | 73. (H) kin | 114. syn key: C E A D B
ant key: D E A B C |
| 33. (E) mourn | 74. (A) decorous | |
| 34. (C) kin | 75. (J) mourn | |
| 35. (D) manner | 76. (B) dispatch | |
| 36. (E) mourned | 77. (C) emotion | |
| 37. (C) kin | 78. (D) filthy | |
| 38. (B) incidences | 79. (F) hew | |
| 39. (D) manner | 80. (G) incidence | |
| 40. (A) hew | 81. (C) pose | |
| 41. (A) omission | 82. (A) omission | |

Answer Key

- | | | |
|----------------------|---------------------|---|
| 1. (B) advocate | 42. (D) reform | 83. (F) sloth |
| 2. (D) antibiotic | 43. (E) roost | 84. (I) unrivaled |
| 3. (C) alarm | 44. (A) omit | 85. (D) reform |
| 4. (E) antique | 45. (B) partiality | 86. (J) yield |
| 5. (A) adjacent | 46. (D) reformed | 87. (C) position |
| 6. (A) adjacent | 47. (B) partiality | 88. (E) roost |
| 7. (E) antique | 48. (C) positioned | 89. (G) succulent |
| 8. (B) advocates | 49. (E) roost | 90. (H) thrice |
| 9. (C) alarm | 50. (A) omitted | 91. A |
| 10. (D) antibiotic | 51. (B) succulent | 92. A |
| 11. (D) clarity | 52. (E) yield | 93. D |
| 12. (E) consequence | 53. (C) thrice | 94. D |
| 13. (A) audition | 54. (D) unrivaled | 95. D |
| 14. (B) bicker | 55. (A) sloth | 96. A |
| 15. (C) browse | 56. (C) thrice | 97. B |
| 16. (C) browsing | 57. (D) unrivaled | 98. B |
| 17. (A) audition | 58. (E) yield | 99. A |
| 18. (B) bicker | 59. (A) sloth | 100. A |
| 19. (D) clarity | 60. (B) succulent | 101. D |
| 20. (E) consequences | 61. (B) advocate | 102. B |
| 21. (E) gazebo | 62. (C) alarm | 103. D |
| 22. (D) fleece | 63. (F) audition | 104. B |
| 23. (C) enchant | 64. (G) bicker | 105. C |
| 24. (A) decree | 65. (J) consequence | 106. A |
| 25. (B) dispute | 66. (E) antique | 107. B |
| 26. (A) decree | 67. (A) adjacent | 108. C |
| 27. (E) gazebo | 68. (D) antibiotic | 109. B |
| 28. (D) fleece | 69. (H) browse | 110. A |
| 29. (C) enchanted | 70. (I) clarity | 111. syn key: C B A E D
ant key: B E D C A |
| 30. (B) dispute | 71. (D) fleece | 112. syn key: A C E B D
ant key: D C B E A |
| 31. (C) knell | 72. (E) gazebo | 113. syn key: C D B E A
ant key: A B C E D |
| 32. (B) incomplete | 73. (I) marked | 114. syn key: E D B A C
ant key: B A E C D |
| 33. (E) mouthful | 74. (J) mouthful | |
| 34. (D) marked | 75. (F) hibernate | |
| 35. (A) hibernate | 76. (C) enchant | |
| 36. (E) mouthfuls | 77. (H) knell | |
| 37. (B) incomplete | 78. (A) decree | |
| 38. (D) marked | 79. (B) dispute | |
| 39. (A) hibernate | 80. (G) incomplete | |
| 40. (C) knell | 81. (A) omit | |
| 41. (C) position | 82. (B) partiality | |