

Answer Key

- | | | |
|-----------------------|-----------------------|--------------------|
| 1. (A) absolve | 43. (C) liability | 85. (C) liability |
| 2. (D) cede | 44. (B) lenient | 86. (E) masterful |
| 3. (C) burglary | 45. (D) marine | 87. (F) mettlesome |
| 4. (E) convenience | 46. (A) jugglery | 88. (H) precede |
| 5. (B) augment | 47. (B) lenient | 89. (I) presuppose |
| 6. (C) burglaries | 48. (E) masterful | 90. (A) jugglery |
| 7. (B) augment | 49. (D) Marine | |
| 8. (D) cede | 50. (C) liability | 1. B |
| 9. (E) convenience | 51. (E) quiver | 2. C |
| 10. (A) absolved | 52. (D) presuppose | 3. D |
| 11. (E) disaffect | 53. (A) mettlesome | 4. C |
| 12. (B) crimp | 54. (B) momentous | 5. A |
| 13. (C) dauntless | 55. (C) precede | 6. D |
| 14. (A) converge | 56. (A) mettlesome | 7. A |
| 15. (D) dirge | 57. (C) precedes | 8. C |
| 16. (B) crimped | 58. (B) momentous | 9. B |
| 17. (C) dauntless | 59. (D) presupposes | 10. A |
| 18. (A) converge | 60. (E) quivered | 11. A |
| 19. (E) disaffected | 61. (B) augment | 12. B |
| 20. (D) dirge | 62. (C) burglary | 13. A |
| 21. (C) enunciate | 63. (D) cede | 14. B |
| 22. (B) enterprise | 64. (E) convenience | 15. D |
| 23. (A) endearment | 65. (F) converge | 16. D |
| 24. (E) famish | 66. (A) absolve | 17. C |
| 25. (D) excerpt | 67. (I) dirge | 18. C |
| 26. (E) famished | 68. (J) disaffect | 19. C |
| 27. (C) enunciate | 69. (G) crimp | 20. B |
| 28. (A) endearments | 70. (H) dauntless | 21. A |
| 29. (B) enterprise | 71. (A) endearment | 22. B |
| 30. (D) excerpt | 72. (G) genial | 23. A |
| 31. (C) gibe | 73. (I) gymnastics | 24. C |
| 32. (D) gymnastics | 74. (H) gibe | 25. C |
| 33. (E) impracticable | 75. (J) impracticable | 26. D |
| 34. (A) gaffe | 76. (B) enterprise | 27. D |
| 35. (B) genial | 77. (D) excerpt | 28. A |
| 36. (C) gibe | 78. (C) enunciate | 29. B |
| 37. (E) impracticable | 79. (E) famish | 30. D |
| 38. (D) gymnastics | 80. (F) gaffe | 31. D |
| 39. (A) gaffe | 81. (G) momentous | 32. A |
| 40. (B) genial | 82. (J) quiver | 33. A |
| 41. (A) jugglery | 83. (B) lenient | 34. D |
| 42. (E) masterful | 84. (D) marine | 35. D |

- 36. D
- 37. B
- 38. B
- 39. C
- 40. B
- 41. C
- 42. B
- 43. C
- 44. D
- 45. C
- 46. B
- 47. B
- 48. D
- 49. D
- 50. D
- 51. A
- 52. D
- 53. B
- 54. B
- 55. A
- 56. D
- 57. C
- 58. B
- 59. C
- 60. C
- 61. C
- 62. B
- 63. A
- 64. C
- 65. C
- 66. D
- 67. A
- 68. D
- 69. D
- 70. C

Answer Key

1. 8
2. $-\frac{1}{7}$
3. .000005
4. .00006
5. 21
6. 0.0039
7. $1\frac{2}{3}$
8. 800
9. 3
10. 8000000
11. $26 \div 20 = 1.30 = 130\%$
12. 6,000
13. 70
14. $\frac{2}{3}$
15. -5
16. 84
17. 13
18. 80%
19. 110
20. 88.3
21. {1, 2, 4, 5, 7, 10, 14, 20, 28, 35, 70, 140}
22. $\Delta = 6$
23. -8
24. $.012 \times 9 = .108$
25. $.064 \div 800 = .00008$
26. .0062
27. 0.028
28. 9.72
29. 840
30. -6
31. -11400
32. 95
33. 188
34. 6,000
35. 351000
36. $43\% \times 60 = 25.8$
37. 2.54
38. 5.46
39. 3.9
40. 6 R 1
41. 17
42. $\frac{48}{36} = \frac{4}{3} < \frac{3}{2} = \frac{12}{8}$
43. 3
44. $\frac{1.3}{26} = \frac{3.9}{7.8}$
45. $50 \div 8 = 6 \text{ R } 2$
46. $120 \div 4 = 30$
47. $144 \div 4 = 36$
48. $168 \div 2 = 84$
49. $\square = 3$
50. $\square = 8$
51. $\square = 4$
52. $\square = 14$
53. $\square = 8$
54. $\square = 8$
55. $\square = 4$
56. $\square = 11$
57. $\square = 2$
58. $\square = 11$
59. $\square = 7.1$
60. $\square = 10.1$
61. $\square = 0.05$
62. $\square = 0.22$
63. $\square = 121$
64. $\square = 12$
65.
$$\begin{array}{r} \frac{10}{15} \\ - \frac{1}{15} \\ \hline \frac{9}{15} = \frac{3}{5} \end{array}$$
66.
$$\begin{array}{r} 6\frac{15}{20} \\ - \frac{11}{20} \\ \hline 6\frac{4}{20} = 6\frac{1}{5} \end{array}$$
67.
$$\begin{array}{r} 3\frac{16}{30} \\ - \frac{25}{30} \\ \hline 2\frac{21}{30} = 2\frac{7}{10} \end{array}$$
68.
$$\begin{array}{r} \frac{20}{30} \\ - \frac{3}{30} \\ \hline \frac{17}{30} \end{array}$$
69.
$$\begin{array}{r} \frac{23}{24} \\ + \frac{16}{24} \\ \hline \frac{39}{24} = \frac{13}{8} = 1\frac{5}{8} \end{array}$$
70.
$$\begin{array}{r} \frac{28}{48} \\ - \frac{18}{48} \\ \hline \frac{10}{48} = \frac{5}{24} \end{array}$$

GT MS (CogAT Numbers) (Fall, 2019) Issue 1

$$71. \quad \begin{array}{r} 3\frac{10}{12} \\ - \quad \frac{9}{12} \\ \hline \end{array} = 3\frac{1}{12}$$

$$72. \quad \begin{array}{r} \frac{22}{30} \\ + \frac{21}{30} \\ \hline \end{array} = 1\frac{13}{30}$$

$$73. \quad 2 \times (3\frac{3}{4} + 8) = 23\frac{1}{2} \text{ (inches)}$$

$$74. \quad 35\frac{1}{2} + 20\frac{3}{4} + 15\frac{1}{8} = 70\frac{4+6+1}{8} = 71\frac{3}{8} \text{ (pounds)}$$

$$75. \quad \frac{4}{24} + \frac{5}{24} = \frac{9}{24} = \frac{3}{8}$$

$$76. \quad \begin{array}{r} 3\frac{62}{70} \\ + 2\frac{49}{70} \\ \hline \end{array} = 6\frac{41}{70}$$

$$77. \quad \begin{array}{r} \frac{7}{16} \\ - \frac{6}{16} \\ \hline \end{array} = \frac{1}{16}$$

$$78. \quad \begin{array}{r} 5\frac{11}{35} \\ - 2\frac{7}{35} \\ \hline \end{array} = 3\frac{4}{35}$$

$$79. \quad 6 + (\frac{1}{2} + \frac{2}{3} + \frac{1}{4}) = 6 + \frac{6+8+3}{12} = 7\frac{5}{12}$$

$$80. \quad \begin{array}{r} \frac{9}{12} \\ + \frac{2}{12} \\ \hline \end{array} = \frac{11}{12}$$

$$81. \quad \begin{array}{r} \frac{15}{20} \\ + \frac{14}{20} \\ \hline \end{array} = \frac{29}{20} = 1\frac{9}{20}$$

$$82. \quad \begin{array}{r} 9\frac{21}{48} \\ - 9\frac{12}{48} \\ \hline \end{array} = \frac{9}{48} = \frac{3}{16}$$

83. 19

84. Method I:

As the most students would do,

$$\frac{15}{7} \times \frac{3}{35} =$$

$$\frac{45}{245} = \frac{9}{49}$$

Method II)

$$\frac{15}{7} \times \frac{3}{35} =$$

Since 15 and 35 have a common factor of 5, so we can divide them both by 5 first.

$$\frac{3}{7} \times \frac{3}{7} = \frac{9}{49}$$

85. $\frac{6}{5}$

86. $\frac{3}{10}$

87. $\frac{1}{20}$

88. $\frac{8}{21}$

89. $\frac{4}{9}$

90. $\frac{2}{9}$

91. $\frac{9}{20}$

92. $\frac{12}{35}$

93. $\frac{7}{24}$

94. $\frac{27}{140}$

95. $\frac{8}{33}$

96. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

97. $\frac{1}{2} \times 14 = 7$

98. $\frac{3}{5} \times \frac{2}{3} = \frac{2}{5}$

99. $\frac{5}{6} \times 24 = 20$

100. $\frac{7}{10} \times \frac{3}{14} = \frac{3}{20}$

Answer Key

- | | | |
|-----------------------|-----------------------|----------------------|
| 1. (B) alibi | 43. (A) incense | 85. (E) manor |
| 2. (C) apathy | 44. (B) innocuous | 86. (J) pestilential |
| 3. (A) abject | 45. (D) legion | 87. (G) myriad |
| 4. (D) beseech | 46. (A) incensed | 88. (B) innocuous |
| 5. (E) cacophony | 47. (C) irremediable | 89. (H) ocher |
| 6. (A) abject | 48. (D) Legions | 90. (A) incense |
| 7. (E) cacophony | 49. (E) manor | 91. C |
| 8. (C) apathy | 50. (B) innocuous | 92. C |
| 9. (B) alibi | 51. (A) misuse | 93. A |
| 10. (D) beseeched | 52. (B) myriad | 94. B |
| 11. (B) commemorative | 53. (E) pestilential | 95. A |
| 12. (D) convivial | 54. (C) ocher | 96. A |
| 13. (A) cilia | 55. (D) panache | 97. A |
| 14. (C) connivance | 56. (E) pestilential | 98. D |
| 15. (E) curt | 57. (D) panache | 99. C |
| 16. (C) connivance | 58. (B) myriads | 100. C |
| 17. (E) curt | 59. (C) ocher | 101. D |
| 18. (A) cilia | 60. (A) misuse | 102. C |
| 19. (D) convivial | 61. (E) cacophony | 103. D |
| 20. (B) Commemorative | 62. (H) connivance | 104. C |
| 21. (A) denunciation | 63. (I) convivial | 105. B |
| 22. (E) ennoble | 64. (F) cilia | 106. D |
| 23. (B) dilemma | 65. (J) curt | 107. D |
| 24. (D) effeminate | 66. (A) abject | 108. B |
| 25. (C) distant | 67. (G) commemorative | 109. D |
| 26. (A) denunciation | 68. (B) alibi | 110. B |
| 27. (E) ennobled | 69. (D) beseech | 111. B |
| 28. (D) effeminate | 70. (C) apathy | 112. C |
| 29. (B) dilemma | 71. (J) idyll | 113. B |
| 30. (C) distant | 72. (A) denunciation | 114. D |
| 31. (C) foresight | 73. (D) effeminate | 115. B |
| 32. (A) evince | 74. (I) gossamer | 116. D |
| 33. (D) gossamer | 75. (F) evince | 117. A |
| 34. (E) idyll | 76. (E) ennoble | 118. A |
| 35. (B) faction | 77. (G) faction | 119. D |
| 36. (D) gossamer | 78. (B) dilemma | 120. D |
| 37. (A) evinced | 79. (C) distant | 121. B |
| 38. (E) idyll | 80. (H) foresight | 122. C |
| 39. (C) foresight | 81. (I) panache | 123. A |
| 40. (B) factions | 82. (F) misuse | 124. D |
| 41. (E) manor | 83. (C) irremediable | 125. C |
| 42. (C) irremediable | 84. (D) legion | 126. C |

- 127. D
- 128. A
- 129. C
- 130. D
- 131. D
- 132. A
- 133. C
- 134. C
- 135. C
- 136. B
- 137. B
- 138. A
- 139. B
- 140. A
- 141. B
- 142. A
- 143. C
- 144. B
- 145. B
- 146. C
- 147. D
- 148. D
- 149. B
- 150. D
- 151. A
- 152. B
- 153. C
- 154. B
- 155. C
- 156. D
- 157. C
- 158. D
- 159. A
- 160. D



Answer Key

- | | |
|--------------|---|
| 1. 57 | 43. 7 |
| 2. 144 | 44. 25 |
| 3. 76 | 45. $5 + 77 = 82$ |
| 4. 69 | 46. $\frac{3}{4}$ |
| 5. 98 | 47. 12 |
| 6. 56 | 48. 6 |
| 7. 156 | 49. 0 |
| 8. 154 | 50. 206.9 |
| 9. 162 | 51. 64 |
| 10. 126 | 52. 4 |
| 11. 16 | 53. 5, 2 |
| 12. 256 | $400 + (43 \times 3) = 529$ |
| 13. 25 | 54. 5, 7 |
| 14. 125 | $400 + 44 \times 4 = 576$ |
| 15. 9 | 55. 6, 2 |
| 16. 0.512 | $400 + 45 \times 5 = 625$ |
| 17. 0.008 | 56. 6, 7 |
| 18. 4096 | $400 + 46 \times 6 = 676$ |
| 19. 0.09 | 57. 7, 2 |
| 20. 0.64 | $400 + 47 \times 7 = 729$ |
| 21. 609 | $30 \times 24 + 9 = 729$ |
| 22. 4209 | 58. 7, 8 |
| 23. 1216 | $400 + 48 \times 8 = 784$ |
| 24. 1225 | $30 \times 26 + 4 = 784$ |
| 25. 1224 | 59. 7, 8 |
| 26. 4224 | $30 \times 28 + 1 = 841$ |
| 27. 616 | 60. 72 |
| 28. 624 | 61. 1.4 |
| 29. 621 | 62. .01 |
| 30. 1221 | 63. .06 |
| 31. 2 | 64. 16 |
| 32. 4 | 65. 1387 |
| 33. 6 | 66. $1\frac{3}{4}$ |
| 34. 9 | $105 \text{ min} = 1 \text{ hr and } 45 \text{ min} = 1\frac{3}{4} \text{ hr.}$ |
| 35. 2 | 67. $16^2 \times 2^3$ |
| 36. 5 | $= 2^8 \times 2^3$ |
| 37. 8 | $= 2^{11}$ |
| 38. 3, 2 | 68. 400 |
| 39. 0.000027 | 69. 15 |
| 40. 78 | 70. 1 |
| 41. 0.15 | 71. $2^5 = 32$ |
| 42. 200 | 72. $(100 - 1) \times 998$ |
| | $= 99800 - 998$ |
| | $= 98802$ |

GT MS (CogAT Numbers) (Fall, 2019) Issue 2

- $99 \times (1000 - 2)$
 $= 99000 - 200 + 2$
 $= 98802$
73. 0.008
74. 0.125
75. 3125
76. 16
77. 0.04
78. 2500
79. 39
80. $20 \div \frac{2}{5} = 50$
81. 0.875
82. 0.3
83. 55
84. $\frac{1}{20}$
85. $.4 \times 250 = 100$
86. $5 \div 20 = 0.25 = 25\%$
87. $16^2(16 - 1) = 256 \times 15 = 128 \times 30 = 3840$
88. 11
89. .1111
90. $12^{\frac{6+4+3}{12}} = 13\frac{1}{12}$
91. $\frac{2}{3}$
92. $\frac{3}{5}$
93. $\frac{4}{5}$
94. $\frac{5}{4}$
95. $\frac{4}{7}$
96. $\frac{6}{5}$
97. 0.005
98. 2.5
99. 4
100. D
 With unknown length of time, we cannot determine the distance
101. B
102. C
 $8 \times 7.5 = 7\frac{1}{2} \times 8..$
103. A
104. A
105. A
 $(-\frac{1}{2})^3 = -\frac{1}{8} < (-\frac{1}{3})^2 = \frac{1}{9}$
106. C
107. C
108. B
 $40 \times \frac{3}{4} = 30 > 42 \times \frac{2}{3} = 28$
109. C
110. B
111. A
112. A
 $\frac{1}{3} - \frac{1}{4} > 0$
 $\frac{1}{6} - \frac{1}{5} < 0$
 So,
 $\frac{1}{3} - \frac{1}{4} > \frac{1}{6} - \frac{1}{5}$
 $\frac{1}{3} + \frac{1}{5} > \frac{1}{4} + \frac{1}{6}$
113. C
114. C
115. A
116. A
117. A
 $\angle ADC = 50^\circ$
 $\angle CAD = 60^\circ$
118. B
119. A
120. $\frac{4}{3} - \frac{3}{4} = 7/12$
121. $5 \times 3\frac{4}{5} = 1\frac{1}{5}$
122. $\frac{5}{3} \div 1\frac{2}{3} = 1$
123. $\frac{1}{2} \times 380 = 190$
124. $50 + 99 + 74 = 223$
125. $100.2 - 46.2 = 54$
126. $136 - 89 = 47$
127. $112 - 95 = 17$
128. $20 + 11 + 49 = 80$
129. $48 + 366 + 9.4 = 423.4$
130. $37.8 + 51 + 42.6 = 131.4$
131. $59 + 61 + 83 = 203$
132. $90 - 43.2 - 11.4 = 35.4$
133. $69.7 - 59 - 8.7 = 2$
134. $61.8 - 15.6 = 46.2$
135. $50 \div 2 = 25$
136. $192 \div 4 = 48$
137. $216 \div 3 = 72$
138. $288 \div 4 = 72$
139. $\square = 7$
140. $\square = 25$
141. $\square = 25$
142. $\square = 8$
143. $\square = 9$
144. $\square = 5$
145. $\square = 3$
146. $\square = 7$
147. $\square = 39$
148. $\square = 2.7$
149. $\square = 0.9$

Answer Key

1. 2
 2. 2
 3. .000008
 4. .014
 5. .08
 6. 0.162
 7. -6.26
 8. $\frac{1}{5}$
 9. 6
 10. 250%
 11. $240 \div 6 = 40$
 12. 182
 13. 9,000
 14. 44%
 15. 3087
 16. 1,000
 17. 13.64
 18. 0.07
 19. 25%
 20. 47.3
 21. $122.\overline{2}\%$
 22. 18 has factors: {1, 2, 3, 6, 9, 18}.
24 has factors : {1, 2, 3, 4, 6, 12, 24}.
Therefore, the largest common factor of 18 and 24 is 6.
Alternative method:
Use common division as below. Both 2 and 3 are circled since they are common factors.
- | | |
|---|--|
| step 1.

$\begin{array}{r} 2 \mid 18, 24 \\ \hline 9, 12 \end{array}$ | step 2.

$\begin{array}{r} 2 \mid 18, 24 \\ \hline 9, 12 \\ 3 \mid 9, 12 \\ \hline 3, 4 \end{array}$ |
|---|--|
- Therefore, the largest common factor is $2 \times 3 = 6$.
The above alternative method is recommended for tons of reasons.
23. 5.0
 24. 2.03
 25. 4.6
 26. $8\frac{1}{12}$
 27. 5
 28. $6\frac{1}{4}$
 29. 50
 30. 2.5
 31. 8
 32. 24
 33. -8
 34. 9
 35. $10 \times 16 + 9 = 169$
 36. $10 \times 14 + 4 = 144$
 37. $10 \times 20 + 25 = 225$
 38. $40(42) + 1 = 1681$
 39. $20 \times 22 + 1 = 441$
 40. $30 \times 36 + 9 = 1089$
 41. $20 \times 24 + 4 = 484$
 42. $20 \times 28 + 16 = 576$
 43. $1 - 62\% = 38\%$
 44. $6 \times 3 = 18$
 45. $26,000 \div 40,000 = 26 \div 40 = 0.65$
 $1 - 0.65 = 0.35 = 35\%$
 46. $45 \div 75 = 3 \div 5 = 0.6 = 60\%$
 47. $1 - 75\% = 25\% = \frac{1}{4}$ (loss)
 $\frac{1}{4} \times 28 = 7$ games
 48. $0.15 \times 660 = \$99.00$
 49. $34 \div 85 = 0.4 = 40\%$
 50. $90 \times 20\% = 18$
 $90 + 18 = 108$
 51. $108 - 96 = 12$
 $12 \div 96 = \frac{1}{8} = 12.5\%$
 52. $30 - 24 = 6$
 $6 \div 24 = .25 = 25\%$
 53. $\frac{120}{150} = \frac{12}{15} = \frac{4}{5} = 0.8 = 80\%$
 54. $1000/5000 = 20\%$
 55. $15\% = 0.15$
 $620 \times 0.15 = \$93.00$
 56. $16 - 5 - 1 = 10$
 $10 \div 16 = 5 \div 8 = 62.5\%$
 57. $180 \div 300 = 0.6 = 60\%$
 58. $1 - 42\% - 33\% = 25\%$
 59. $\frac{2}{5} = 0.4 = 40\%$
 60. A quart is $\frac{1}{4} = 25\%$ of a gallon.
 61. A gallon = 4 quarts = 400% of a quart.
 62. $\frac{1}{4} = 0.25 = 25\%$
 63. $3 \times 65 = 195$ km
 64. $264 \div 12 = 22$ (mi per gal)
 $22 \times 15 = 330$ mi

GT MS (CogAT Numbers) (Fall, 2019) Issue 3

65. $16 \div 2 \times 23 = 184$
66. $\frac{10}{8} = \frac{5}{4} = 1\frac{1}{4}$ hr
 $\frac{10}{20} = \frac{1}{2}$ hr
 $1\frac{1}{4} + \frac{1}{2} = 1\frac{3}{4}$ hr
67. $35071 - 34746 = 325$ (distance)
 $325 \div 5 = 65$ mph
68. $290 \div 50 = 5.8$ hours = 5 hr 48 min
69. 1 hour 20 min = $1\frac{1}{3}$ hr
 $30 \times 1\frac{1}{3} = 40$ miles
70. $\frac{2700}{4.5} = 600$ mph
71. 1 sec = $\frac{1}{3600}$ hr
 $45 \times \frac{1}{3600} = \frac{1}{80}$ mi = $\frac{1}{80} \times 5280$ ft = 66 feet
72. (a) $2 \times 55 = 110$ mi
(b) $\frac{\text{distance}}{\text{speed}} = \frac{330}{55} = \frac{30}{5} = 6$ hr
73. 2 hr 30 min = $2\frac{1}{2}$ hr
 $50 \times 2\frac{1}{2} = 125$ mi
74. (a) $12 \times 2 = 24$ km
(b) $54 \div 12 = 9 \div 2 = 4.5$ hr or 4 hr 30 min
75. $6 \times 25 = 150$ mi
76. 880 km
77. 14 hr
78. $3 \times 50 = 150$ mi
79. $120 \div 60 = 2$ hr
80. $250 \div 50 = 5$ hr
81. $14 \div 4 = 3.5$ (hr)
9:00 A.M. + 3:30 = 12:30 P.M.
82. $5 \times 50 = 250$ mi

Answer Key

1. .1111
2. 2
3. 1
4. .12345
5. 126.5
6. $\frac{7}{12}$
7. .0012
8. $.125 + 0.1111\dots$
= $.236\bar{1}$

9. .1
10. $196 + 2.8 + .01$
= 198.81
11. 0.1
12. 1.5
13. $3.5 + 4.333\dots + 5.25 = 13.08\bar{3}$
14. 4
15. 20
16. $12 + 2\sqrt{2}$
17. 5
18. $180 \times (1 - \frac{2}{9}) = 108$
19. 10
20. $\frac{3}{4}$
21. 0.5
22. 4, 12, 9
23. 16, -40, 25
24. 1, 4, 9, 4, 12, 6
25. $\sqrt{10202-1} = 101$
 $\sqrt{101-1} = 10$
 $\sqrt{10-1} = 3$

$$\begin{array}{r} 3 \ . \ 1 \ 6 \ 2 \ 2 \ 7 \\ \hline 1 \ 0 \\ 9 \\ \hline 61 \quad 1 \ 0 \ 0 \\ \times 1 \quad 6 \ 1 \\ \hline 626 \quad 3 \ 9 \ 0 \ 0 \\ \times 6 \quad 3 \ 7 \ 5 \ 6 \\ \hline 6322 \quad 1 \ 4 \ 4 \ 0 \ 0 \\ \times 2 \quad 1 \ 2 \ 6 \ 4 \ 4 \\ \hline 63242 \quad 1 \ 7 \ 5 \ 6 \ 0 \ 0 \\ \times 2 \quad 1 \ 2 \ 6 \ 4 \ 8 \ 4 \\ \hline 632447 \quad 4 \ 9 \ 1 \ 1 \ 6 \ 0 \ 0 \\ \times 7 \quad 4 \ 4 \ 2 \ 7 \ 1 \ 2 \ 9 \end{array}$$

26.

$$\begin{array}{r} 4 \ . \ 1 \ 2 \ 3 \ 1 \ 0 \ 5 \\ \hline 1 \ 7 \\ \hline 1 \ 6 \\ \hline 81 \quad 1 \ 0 \ 0 \\ \times 1 \quad 8 \ 1 \\ \hline 822 \quad 1 \ 9 \ 0 \ 0 \\ \times 2 \quad 1 \ 6 \ 4 \ 4 \\ \hline 8243 \quad 2 \ 5 \ 6 \ 0 \ 0 \\ \times 3 \quad 2 \ 4 \ 7 \ 2 \ 9 \\ \hline 82461 \quad 8 \ 7 \ 1 \ 0 \ 0 \\ \times 1 \quad 8 \ 2 \ 4 \ 6 \ 1 \\ \hline 8246205 \quad 4 \ 6 \ 3 \ 9 \ 0 \ 0 \ 0 \ 0 \\ \times 5 \quad 4 \ 1 \ 2 \ 3 \ 1 \ 0 \ 2 \ 5 \end{array}$$

- 27.
28. $\frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + 1}}}} = 0.625$
29. $\frac{1}{1 + \frac{2}{1 + \frac{3}{1 + \frac{4}{1 + 1}}}} = 0.5$
30. 10, 35, 50, 24
31. 1, 4, 9, 4, 12, 6
32. 102.01
33. $5 + 77 = 82$
34. 6
35. 0
36. 64
37. $\frac{2}{5}$
38. $\Delta = 25$
39. $\frac{2}{3}$
40. 5
41. 13
42. 10
43. 39
44. 0.5
45. $\frac{2}{3}$
46. $\frac{2}{5}$
47. $\frac{3}{8}$
48. $\frac{4}{13}$
49. $\frac{5}{13}$
50. $\frac{5}{13}$
51. $\frac{3}{5}$
52. $\frac{4}{5}$
53. $\frac{5}{4}$
54. $\frac{4}{7}$
55. $\frac{6}{5}$
56. 0.005

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57. 2.5
58. 0.000027
59. 78
60. 0.15
61. 200
62. 7
63. 25
64. $\frac{3}{4}$
65. 12
66. 206.9
67. 9
68. 14
69. 20
70. 27
71. 35
72. $180 \times (1 - \frac{2}{6}) = 120$
73. $180 \times (1 - \frac{2}{7}) = 128\frac{4}{7}$
74. $180 \times (1 - \frac{2}{8}) = 135$
75. $180 \times (1 - \frac{2}{9}) = 140$
76. $180 \times (1 - \frac{2}{10}) = 144$
77. 6
78. 15
79. 45
80. 4
81. 5, 2
 $400 + (43 \times 3) = 529$
82. 5, 7
 $400 + 44 \times 4 = 576$
83. 6, 2
 $400 + 45 \times 5 = 625$
84. 6, 7
 $400 + 46 \times 6 = 676$
85. 7, 2
 $400 + 47 \times 7 = 729$
 $30 \times 24 + 9 = 729$
86. 7, 8
 $400 + 48 \times 8 = 784$
 $30 \times 26 + 4 = 784$
87. 7, 8
 $30 \times 28 + 1 = 841$
88. $1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + 1}}} = 1.6$
89. $1 - \frac{1}{1 - \frac{1}{1 - \frac{1}{1 - \frac{1}{1 - \frac{1}{2}}}}} = 0.5$
90. $2^{16} = 64 \times 1024 = 65536$
91. $600 \div 50 = 12$
 $600 \div 60 = 10$
 $10 + 12 = 22$ hr
92. $1\frac{1}{2} \times 10 = 15$ (miles)
 $15/4 = 3\frac{3}{4}$ hours
 $1\frac{1}{2} + 3\frac{3}{4} = 5\frac{1}{4}$ hours = 5 hr 15 min
93. 3 hr 24 min = $3\frac{2}{5}$ hr
 $35 \times 3\frac{2}{5} = 119$ (miles)
94. 3 hr 20 min = $3\frac{1}{3}$ hr
 $\frac{10}{3\frac{1}{3}} = 3$ mph
95. 1 hr 20 min = $1\frac{1}{3}$ hours
 $\frac{120}{1\frac{1}{3}} = \frac{120}{\frac{4}{3}} = 90$ mph
96. $48 + 60 = 108$ mi
 $2 + 3 = 5$ hr
 $108 \div 5 = 216 \div 10 = 21.6$ mph
97. 25 min = $\frac{25}{60}$ hr
 $\frac{175}{\frac{25}{60}} = \frac{175 \cdot 60}{25} = 7 \times 60 = 420$ mph
98. 20 min = $\frac{1}{3}$ hour
 $\frac{1}{3} \times 45 = 15$ mi
99. 3 hr 20 min = $3\frac{1}{3}$ hr
 $2\frac{1}{3} \times 60 = 140$ mi
100. 11:00 - 7:00 = 4 hr
 $53 \div 4 = 13\frac{1}{4}$ mph
101. $2 \times 180 = 360$ mi
 $\frac{360}{5} = 72$ mph
102. $240 \div 60 = 4$ hr
103. $4 - 1 = 3$ hr
104. $240 \div 3 = 80$ mph
105. $312 \div 48 = 6.5 = 6$ hr and 30 min
106. $9:40 + 6:30 = 16:10 = 4:10$ P.M.
107. $4:10 - 3:45 = 25$ min (late)
108. 20 min = $\frac{1}{3}$ hr
 $\frac{15}{\frac{1}{3}} = 45$ mph
109. 10 min = $\frac{1}{6}$ hr
speed = $\frac{\text{distance}}{\text{time}} = \frac{80}{\frac{1}{6}} = 480$ mph
110. 8 m/sec (= $100 \div 12.5$)

Answer Key

- | | | |
|----------------------|-----------------------|--|
| 1. (B) amateur | 43. (A) forbear | 85. (E) irreligious |
| 2. (C) ambush | 44. (B) incapacitate | 86. (J) regrettably |
| 3. (A) abhorrence | 45. (D) innovative | 87. (G) mosaic |
| 4. (D) anarchy | 46. (A) forbear | 88. (B) incapacitate |
| 5. (E) assassinate | 47. (C) informal | 89. (H) opulent |
| 6. (A) abhorrence | 48. (D) Innovative | 90. (A) forbear |
| 7. (E) assassinate | 49. (E) irreligious | 91. C |
| 8. (C) ambushed | 50. (B) incapacitated | deplete means to reduce or deprive or something essential; exhaust means to empty completely |
| 9. (B) Amateur | 51. (A) maudlin | 92. A |
| 10. (D) anarchy | 52. (B) mosaic | voluntary means done by one's own will, or willing |
| 11. (B) avail | 53. (E) regrettably | 93. B |
| 12. (D) botanical | 54. (C) opulent | to refute means to prove wrong, or to deny the truth of |
| 13. (A) assimilate | 55. (D) progeny | 94. D |
| 14. (C) blare | 56. (E) Regrettably | to cheat means to influence by means of trickery, or to defraud |
| 15. (E) cereal | 57. (D) progeny | 95. C |
| 16. (C) blare | 58. (B) mosaic | miserable means in a state of distress or unhappiness |
| 17. (E) cereal | 59. (C) opulently | 96. A |
| 18. (A) assimilate | 60. (A) maudlin | vintage means of old and enduring interest, or classic |
| 19. (D) botanical | 61. (E) assassinate | 97. B |
| 20. (B) availed | 62. (H) blare | tart means pleasantly sharp or acid to the taste |
| 21. (A) chasm | 63. (I) botanical | 98. B |
| 22. (E) debris | 64. (F) assimilate | to corner means to drive into a corner, or to trap |
| 23. (B) condign | 65. (J) cereal | 99. A |
| 24. (D) contestant | 66. (A) abhorrence | one meaning of zest is |
| 25. (C) conservation | 67. (G) avail | |
| 26. (A) chasm | 68. (B) amateur | |
| 27. (E) debris | 69. (D) anarchy | |
| 28. (D) contestants | 70. (C) ambush | |
| 29. (B) condign | 71. (J) engrossed | |
| 30. (C) conservation | 72. (A) chasm | |
| 31. (C) devise | 73. (D) contestant | |
| 32. (A) deplore | 74. (I) embargo | |
| 33. (D) embargo | 75. (F) deplore | |
| 34. (E) engrossed | 76. (E) debris | |
| 35. (B) devastate | 77. (G) devastate | |
| 36. (D) embargo | 78. (B) condign | |
| 37. (A) deplore | 79. (C) conservation | |
| 38. (E) engrossed | 80. (H) devise | |
| 39. (C) devising | 81. (I) progeny | |
| 40. (B) devastated | 82. (F) maudlin | |
| 41. (E) irreligious | 83. (C) informal | |
| 42. (C) informal | 84. (D) innovative | |

- keen enjoyment, or gusto
100. D
to haggle means to negotiate over terms or price, or to bargain
101. A
to impel means to drive forward using strong moral pressure, or to force
102. C
a throng is a large number of assembled people, or a mass
103. C
imperial means befitting or suggesting an emperor; regal means befitting or suggesting a king
104. B
to diffuse means to break up or spread out, or to scatter
105. D
to hinder means to hold back; one meaning of to check means to slow or bring to a stop
106. A
latent means capable of becoming but not currently visible, or dormant
107. C
wretched means extremely distressed, or miserable
108. D
irksome means tedious or annoying
109. B
to regulate means to bring under the control of law; to police means to control or keep order
110. A
to warrant means to serve as adequate ground or reason, or to justify
111. C
to protract means to prolong in time or space, or to delay
112. B
lax means in a relaxed state, or slack
113. A
rigor means severity of life, or austerity
114. D
discrete means individually distinct
115. C
lissome means supple or flexible
116. A
to misprize means to hold in contempt, or to despise
117. C
to impugn means to attack verbally as false or lacking integrity; to assail means to attack
118. D
to supervene means to follow as an unexpected development
119. A
exigent means demanding immediate attention, or urgent
120. D
fervid means ardent or passionate
121. B
ersatz means a usually artificial or inferior substitute
122. B
redolent means aromatic or full of a specific scent, or odorous
123. D
turpitude means wickedness, or depravity
124. B
propinquity means nearness in place or time
125. C
vociferous means loud and insistent, often in presentation of demands or requests; strident also means loud and insistent
126. B
127. B
128. C
129. C
130. D
131. A
132. C
133. C
134. B
135. D
136. C
137. D
138. A
139. B
140. B
141. C
142. A
143. B
144. D
145. B
146. B
147. C
148. C
149. B
150. B
151. B
152. B
153. A
154. D
155. B

- 156. B
- 157. D
- 158. B
- 159. C
- 160. A
- 161. C
- 162. D
- 163. C
- 164. B
- 165. B
- 166. syn key: C E A D B
ant key: C B D A E
- 167. syn key: E C D B A
ant key: C A D E B
- 168. syn key: A D B E C
ant key: C A D B E
- 169. syn key: C E A D B
ant key: D E B C A

Answer Key

1. 24
2. $9^6 = 3^{12}$
3. .1234
4. .54321
5. .54321
6. $\frac{3}{19}$
7. -.0012
8.
$$\begin{array}{r} 1.111,111 \\ +1.010,101 \\ +1.001,001 \\ \hline =3.122,213 \end{array}$$
9. $0.\overline{037} + 0.25$
 $= 0.28\overline{703}$
10. 1,111,111,101
11. 8,888,888,889
12. 111,111,111
13. $0.\overline{012345679}$
14. 60
15. 9
16. 4
17. $\frac{2}{3}$
18. -2
19. 9
20. 8
21. 0.1
22. 20
23. 25
24. 80
25. 0.3
26. 3
27. -1
28. 20
29. -3
30. -10
31. 0.2
32. $\frac{4}{9}$
33. $\frac{6}{11}$
34. 4
35. 5
36. $\frac{2}{3}$
37. $\frac{5}{4}$
38. $\frac{5}{2}$
39. $-\frac{1}{6}$
40. 55
41. 5050
42. $60 \times 103 = 6180$
43. 110
44. $51 \times 25 = 1275$
45. $50 \times 81 = 4050$
46. $50 \times 21 = 1050$
47. $101 \times 67 = 6767$
48. $21.5 \times 20 = 430$
49. $1515 \div 15 = 101$
 $101 + 2 \times 7 = 115$
50. $\frac{19-5}{10-3} = 2$
 $2 \times (20 - 10) + 19 = 39$
51. 0.005
52. $\frac{14}{25} = \frac{56}{100} = 56\%$
53. 1.21
54. 14400
55. $\frac{169}{9} = 18\frac{7}{9}$
56. 576
57. 625
58. $1.3^2 = 1.69$
59. $5\sqrt{2}$
60. $2 - .4 + 1.8 = 3.4$
61. $1\frac{2}{3}$
62. $1 + \frac{1}{1\frac{2}{3}} = 1\frac{3}{5}$
63. $\sqrt{5 + \frac{4}{9}} = \sqrt{\frac{49}{9}} = \frac{7}{3} = 2\frac{1}{3}$
64. $\frac{1}{4}$
65. $\frac{1}{40}$
66. $\frac{4.5}{2.88} \times \frac{16}{3} = \frac{1.5}{2.88} \times 16$
 $= \frac{15}{28.8} \times 16$
 $= \frac{15}{1.8} = \frac{75}{9} = 2\frac{5}{3}$
67. $\frac{8}{3} \div \frac{15}{4} \div \frac{51}{10} = \frac{8 \times 4 \times 10}{3 \times 15 \times 51}$
 $= \frac{64}{459}$
68. $8,000,000 \times 0.35$
 $= 80000 \times 35$
 $= 2,800,000$
69. $30 \times 1.2 = \$36$

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70. $30 \times 1.2 \times 1.2 = \43.20
71. $8\%(12000) = 8 \times 120 = 960$ (gain)
 $15\%(7200) = 15 \times 72 = 1080$ (loss)
 $1080 - 960 = \$120$ (loss)
72. $(60 - 48) \div 60 = .2 = 20\%$
73. $\$12 \times 20\% =$
 $\$12 \times 0.2 = \2.40
 $\$12 + \$2.40 = \$14.40$
74. $1 - 40\% = 60\%$ (spending)
 $\$950 \times 60\% = \570 (expenditure).
75. 25 %
76. tax = $300 \times 5\% = 15$
 $300 + 15 = 315$
 $315 \times 2 = 630$
77. 176 stones
78. $75\% \times 12 = \frac{3}{4} \times 12 = 9$ oz
79. $126 \div 180 = .70$
 $1 - 0.7 = 0.3 = 30\%$
80. $360 \div \frac{3}{4} = 480$
81. $84 - 70 = 14$
 $14 \div 70 = 0.2 = 20\%$
82. $1 - 20\% = 80\% = 0.8$ (after discount)
 $350 \times 0.8 = \$280.00$
83. $1 + 4\% = 1.04$ (after increase)
 $600 \times 1.04 = 624$
84. $40 - 32 = 8$ (discount)
 $8 \div 40 = .20 = 20\%$
85. $60 \times 20\%$
 $= 60 \times 0.2$
 $= \$12.00$
86. $1 - 20\% = 0.8$
 $60 \times 0.8 = \$48.00$
87. $425 - 224 - 116 = 85$
 $85 \div 425 = 1 \div 5 = 0.2 = 20\%$
88. $1200/500 = 2.4$ hours = 2 hr and 24 min
89. $1890 \div 3.5 = 540$ mph
90. $540 \div 60 = 9$ miles per minute
91. $\frac{18}{40} = 0.45$ hour = 27 min
92. $240 \div 60 = 4$
 $4 - 1 = 3$ hr (expected time)
 $240 \div 3 = 80$ mph
93. 3 hr 20 min = $3\frac{1}{3}$ hr
 $3\frac{1}{3} \times 60 = 200$ mi
94. $20 \div 10 = 2$ hours
95. 4:30 P.M. - 10:00 - 1 = 5:30 = 5.5 hr
 $5.5 \times 50 = 275$ mi

Answer Key

- | | | |
|--------------------------|--------------------------|------------------------|
| 1. (B) antiseptic | 43. (A) literally | 85. (E) perish |
| 2. (C) attest | 44. (B) manifestation | 86. (J) render |
| 3. (A) adieu | 45. (D) molt | 87. (G) premeditate |
| 4. (D) augmentation | 46. (A) literal | 88. (B) manifestation |
| 5. (E) chaff | 47. (C) misunderstand | 89. (H) quarantine |
| 6. (A) adieu | 48. (D) Molten | 90. (A) literally |
| 7. (E) chaff | 49. (E) perished | 91. syn key: C B A E D |
| 8. (C) attests | 50. (B) manifestation | ant key: C E D A B |
| 9. (B) antiseptic | 51. (A) preceptor | 92. syn key: C B E A D |
| 10. (D) augmentation | 52. (B) premeditate | ant key: A E B D C |
| 11. (B) condolence | 53. (E) render | 93. syn key: D E B A C |
| 12. (D) disfavor | 54. (C) quarantine | ant key: D C E A B |
| 13. (A) compensate | 55. (D) remedial | 94. syn key: E A B D C |
| 14. (C) degrade | 56. (E) rendered | ant key: D A E B C |
| 15. (E) engender | 57. (D) remedial | 95. B |
| 16. (C) degraded | 58. (B) premeditated | 96. C |
| 17. (E) engenders | 59. (C) quarantine | 97. D |
| 18. (A) compensated | 60. (A) preceptor | 98. A |
| 19. (D) disfavor | 61. (E) chaff | 99. A |
| 20. (B) condolences | 62. (H) degrade | 100. B |
| 21. (A) entice | 63. (I) disfavor | 101. A |
| 22. (E) foolhardy | 64. (F) compensate | 102. A |
| 23. (B) exile | 65. (J) engender | 103. D |
| 24. (D) fell | 66. (A) adieu | 104. D |
| 25. (C) expediency | 67. (G) condolence | 105. B |
| 26. (A) entice | 68. (B) antiseptic | 106. C |
| 27. (E) foolhardy | 69. (D) augmentation | 107. B |
| 28. (D) felled | 70. (C) attest | 108. B |
| 29. (B) exile | 71. (J) incomprehensible | 109. D |
| 30. (C) expediency | 72. (A) entice | 110. C |
| 31. (C) icon | 73. (D) fell | 111. B |
| 32. (A) gambit | 74. (I) implication | 112. C |
| 33. (D) implication | 75. (F) gambit | 113. B |
| 34. (E) incomprehensible | 76. (E) foolhardy | 114. B |
| 35. (B) geniality | 77. (G) geniality | 115. A |
| 36. (D) implications | 78. (B) exile | 116. A |
| 37. (A) gambit | 79. (C) expediency | 117. D |
| 38. (E) incomprehensible | 80. (H) icon | 118. D |
| 39. (C) icons | 81. (I) remedial | 119. A |
| 40. (B) geniality | 82. (F) preceptor | 120. B |
| 41. (E) perish | 83. (C) misunderstand | 121. B |
| 42. (C) misunderstand | 84. (D) molt | 122. D |

- 123. A
- 124. A
- 125. D
- 126. D
- 127. D
- 128. C
- 129. C
- 130. B
- 131. A
- 132. B
- 133. B
- 134. A