

Answer Key

- | | |
|-------------------|---------------------------------------|
| 1. N/A | 43. 7.1 |
| 2. N/A | 44. 1.2 |
| 3. N/A | 45. 7.8 |
| 4. N/A | 46. 4.7 |
| 5. N/A | 47. 1 |
| 6. N/A | 48. 0.6 |
| 7. N/A | 49. - |
| 8. N/A | 50. 6.5 |
| 9. N/A | 51. 15 |
| 10. N/A | 52. 28 |
| 11. $\frac{1}{2}$ | 53. 17 |
| 12. $\frac{3}{4}$ | 54. 32 |
| 13. $\frac{5}{8}$ | 55. 20 |
| 14. $\frac{1}{4}$ | 56. 28 |
| 15. $\frac{3}{4}$ | 57. 19 |
| 16. $\frac{2}{3}$ | 58. 34 |
| 17. 1 | 59. 28 |
| 18. 1 | 60. 28 |
| 19. $\frac{1}{3}$ | 61. 28 |
| 20. $\frac{1}{6}$ | 62. 24 |
| 21. $\frac{4}{5}$ | 63. 25 |
| 22. $\frac{6}{7}$ | 64. 28 |
| 23. $\frac{5}{6}$ | 65. 18 |
| 24. $\frac{4}{5}$ | 66. 31 |
| 25. $\frac{4}{5}$ | 67. 28 |
| 26. $\frac{4}{5}$ | 68. 31 |
| 27. $\frac{5}{5}$ | 69. 33 |
| 28. $\frac{4}{4}$ | 70. 24 |
| 29. $\frac{4}{4}$ | 71. A=4, B=6, C=2 |
| 30. $\frac{6}{6}$ | Ans=4 (for A) & 6 (for B) & 2 (for C) |
| 31. 49 | 72. A=2, B=5, C=7 |
| 32. 3 | Ans=2 (for A) & 5 (for B) & 7 (for C) |
| 33. 5 | 73. A=5, B=5, C=9 |
| 34. 8 | Ans=5 (for A) & 5 (for B) & 9 (for C) |
| 35. 14 | 74. A=6, B=5, C=7 |
| 36. 16 | Ans=6 (for A) & 5 (for B) & 7 (for C) |
| 37. 6 | 75. A=6, B=0, C=8 |
| 38. 9 | Ans=6 (for A) & 0 (for B) & 8 (for C) |
| 39. 11 | 76. A=5, B=9, C=5 |
| 40. 15 | Ans=5 (for A) & 9 (for B) & 5 (for C) |
| 41. 3.1 | 77. A=4, B=5, C=6 |
| 42. - | Ans=4 (for A) & 5 (for B) & 6 (for C) |
| | 78. A=4, B=6, C=4 |
| | Ans=4 (for A) & 6 (for B) & 4 (for C) |

MAP 225 (T3) Issue 5

79. $A=5, B=6, C=8$

Ans=5 (for A) & 6 (for B) & 8 (for C)

80. $A=3, B=5, C=0$

Ans=3 (for A) & 5 (for B) & 0 (for C)

81. 7

82. 4

83. 5

84. 3

85. 4

86. 12

87. 9

88. 8

89. 6

90. 8

91. 97

92. 124

93. 64

94. 122

95. 48

96. 45

97. 55

98. 165

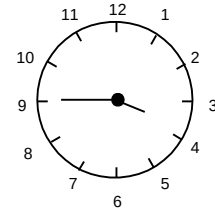
99. 20

100. 47

101. $9 \times 10 = 90$

102. 7

103. $3:10 + 0:35 = 3:45$



104. $2 \times 0.75 = 1.50$

$3.50 - 1.50 = \$2.00$

105. $10 \times 7 = 70$

106. $50 \times 6 = 300$

107. $8 \times 9 = 72$

108. $3 \times 5 + 8 = 23$

109. $14 - 6 = 8$

110. $14 + 27 = 41$

111. \$16.00

112. $4 \times 3 = 12$

113. $1 + 2 = 3$

$60 \div 3 = 20$

114. 12

115. $2 \times 6 + 4 \times 3 + 2 = 26$

116. $11 + 14 = 25$

117. $3 \times 15 = 45 \text{ min}$

118. $4 \times 15 = 60$

119. 3 inches

120. $3 \times 12 = 36$

$36 - 32 = 4 \text{ inches}$

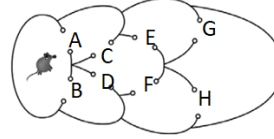
Answer Key

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|-------------------------------|--|
| 1. 18 | 35. 6.25 |
| 2. 12 | 36. 3.875 |
| 3. 9 | 37. 1.25 |
| 4. 5 | 38. 7.625 |
| 5. 2 | 39. 2.125 |
| 6. 20 | 40. 7.6 |
| 7. 42 | 41. $5\frac{1}{2}$ |
| 8. 24 | 42. $6\frac{1}{4}$ |
| 9. 49 | 43. $10\frac{1}{4}$ |
| 10. 63 | 44. $\frac{7}{10}$ |
| 11. 25 | 45. $\frac{3}{4}$ |
| 12. 49 | 46. $\frac{4}{5}$ |
| 13. 63 | 47. $\frac{17}{20}$ |
| 14. 35 | 48. $3\frac{2}{5}$ |
| 15. 54 | 49. $7\frac{1}{10}$ |
| 16. 36 | 50. $7\frac{9}{20}$ |
| 17. 30 | 51. |
| 18. 54 | 52. 2 (GCF) & 42 (LCM) |
| 19. 27 | 53. 3 (GCF) & 30 (LCM) |
| 20. 24 | 54. 11 (GCF) & 154 (LCM) |
| 21. $\frac{4}{7}$
GCF = 2 | 55. 7 (GCF) & 196 (LCM) |
| 22. $\frac{6}{7}$
GCF = 6 | 56. 7 (GCF) & 140 (LCM) |
| 23. $\frac{5}{6}$
GCF = 7 | 57. 7 (GCF) & 273 (LCM) |
| 24. $\frac{2}{3}$
GCF = 8 | 58. 13 (GCF) & 78 (LCM) |
| 25. $\frac{4}{5}$
GCF = 8 | 59. 5 (GCF) & 50 (LCM) |
| 26. $\frac{7}{9}$
GCF = 8 | 60. 4 (GCF) & 156 (LCM) |
| 27. $\frac{5}{8}$
GCF = 10 | 61. $5\frac{5}{6} + 6\frac{1}{6} = 12$ |
| 28. $\frac{3}{5}$
GCF = 12 | 62. $1 - \frac{3}{5} = \frac{2}{5}$
$60 \times (\frac{2}{5}) = 24$
$1 - \frac{3}{8} = \frac{5}{8}$
$24 \times (\frac{5}{8}) = 15$ |
| 29. $\frac{2}{7}$
GCF = 14 | 63. 8 |
| 30. $\frac{8}{9}$
GCF = 15 | 64. $\frac{1}{2}$ |
| 31. 4.5 | 65. 2 |
| 32. 2.5 | 66. $12 \times \frac{1}{4} = 3$ in |
| 33. 6.5 | 67. 75 |
| 34. 4.75 | 68. $60 \div \frac{2}{3} = 90$ |
| | 69. $\frac{4}{9} = 4/9$ |

MAP 235 (T3) Issue 5

70. $\frac{1}{3}(36) = 12$
 $\frac{1}{4}(36 + 12) = 12$
 $\frac{1}{6}(36 + 12) = 8$
 $12 - 8 = 4$ (loss)
71. $12 \frac{9}{10} + 8 \frac{6}{10} = 21 \frac{1}{2}$
72. 24
73. $\frac{3}{4} = \frac{3x}{4x}$
 $\frac{4x}{(3x + 14)} = \frac{3}{4}$
 $9x + 42 = 16x$
 $7x = 42$
 $x = 6$
Original = $18/24$
74. (a) $3/10$ (b) 6 days
75. 6
76. $5\frac{1}{2} - 4\frac{3}{4} = \frac{3}{4}$
 $\frac{3}{4} \times 12 = 9$ inches
77. $\frac{\frac{3}{6} - \frac{1}{2}}{2} = 1/2$
78. $36 \div \frac{3}{4} = 48$
79. $45 \times \frac{1}{3} = 15$
 $45 + 15 = 60$ lb
80. $5 \times 12 = 60$
 $\frac{1}{2} \times 12 = 6$
 $60 + 6 = 66$ pens
81. $\frac{1}{2} \times 16 = 8$ miles
 $8 \div 24 = \frac{1}{3}$ hr = 20 min
82. $(1 + 2) \div 2 = \$1.50$ (a pencil)
 $3 \times 1.5 + 1 = 5.5$
 $8 \times 1.5 = 12$
 $12 - 5.5 = \$6.50$

83. $(10 \text{ ft } 6 \text{ in}) \div 3$
 $= (9 \text{ ft } + (1 \text{ ft } 6 \text{ in})) \div 3$
 $= 3 \text{ ft } + (18 \text{ in}) \div 3$
 $= 3 \text{ ft } \& \text{ } 6 \text{ in}$
84. $(A|B) (C|D) (E|F) (G|H)$
 $2 \times 2 \times 2 \times 2 = 16$ different paths



85. $4 + 5 + 6 + 7 + 8 = 30$
 $30 \div 5 = 6 = 5 + 0 + 0 + 1$
Ans = 50001
86. $0.01 + 0.10 + 0.15 = \$0.16$
87. $\frac{1}{3}(27) = 9$
 $\frac{2}{3}(27) = 18$
 $18 - 4 = 14$
 $14 - 9 = 5$ (more than Sandy)
88. $1 - \frac{1}{3} = \frac{2}{3}$
 $\frac{1}{3} : \frac{2}{3}$
 $= 1 : 2$
 $= 3 : 6$
Ans = 6 weeks
89. $1 - \frac{2}{3} = \frac{1}{3}$
 $\frac{1}{3} \times 18 = 6$
 $\frac{1}{3} \times 6 = 2$
 $6 - 2 = 4$
90. $1 - \frac{1}{3} = \frac{2}{3}$
 $150 \times \frac{2}{3} = 100$

Answer Key

1. 320
2. 48
3. 28
4. 35
5. 3.6
6. 720
7. 30
8. 45
9. 24
10. 630
11. 0.24
12. 2
13. 0.001
14. 0.0005
15. 0.002
16. 16
17. 125
18. 150
19. 750
20. 0.04
21. 74
22. 82
23. 88
24. 92
25. 87
26. 93
27. 86
28. 94
29. 100
30. 104
31. 464
32. 510
33. 558
34. 384
35. 429
36. 476
37. 525
38. 576
39. 629
40. 684
41. 18 (A) & 6 (B) & 4 (C) & 3 (D)
42. 20 (A) & 5 (B) & 8 (C) & 2 (D)
43. 96 (A) & 4 (B) & 5 (C) & 8 (D)
44. 120 (A) & 8 (B) & 5 (C) & 5 (D)
45. 280 (A) & 7 (B) & 6 (C) & 8 (D)
46. $\frac{33}{80}$
GCF = 2, LCM = 80
47. $\frac{19}{270}$
GCF = 3, LCM = 270
48. $\frac{11}{56}$
GCF = 2, LCM = 56
49. $\frac{17}{48}$
GCF = 2, LCM = 48
50. $\frac{15}{28}$
GCF = 1, LCM = 28
51. $\frac{11}{70}$
GCF = 3, LCM = 210
52. $\frac{9}{140}$
GCF = 5, LCM = 140
53. $\frac{9}{40}$
GCF = 1, LCM = 40
54. $\frac{1}{168}$
GCF = 4, LCM = 168
55. $\frac{5}{14}$
GCF = 1, LCM = 14
56. 3
57. 4
58. 5
59. 6
60. 7
61. 160000
62. 2
63. 80
64. 2500
65. 512000
66. 2 in (A) & 10 in (B) & 3 in (C) & 5 in (D)
67. 5 in (A) & 6 in (B) & 5 in (C) & 3 in (D)
68. 4 in (A) & 7 in (B) & 3 in (C) & 5 in (D)
69. 3 in (A) & 6 in (B) & 3 in (C) & 8 in (D)
70. 4 in (A) & 3 in (B) & 4 in (C) & 7 in (D)
71. $20 \div (20+20) = \frac{1}{2} = 50\%$
72. 40:15 = 8:3

MAP 255 (T3) Issue 5

73. $1 - \frac{1}{6} = \frac{5}{6}$
 $\frac{5}{6} \times \frac{1}{7} = \frac{5}{42}$
 $8.4 \times \frac{5}{42} = 0.2 \times 5 = 1 \text{ lb}$
74. In a trip of 600 miles,
 $(600 \div 200) \times 8.5 = 25.5 \text{ gal}$
(a) A
 $(600 \div 120) \times 5.2 = 26 \text{ gal}$ (white car more expensive)
(b) $26 - 25.5 = 0.5 \text{ gal}$ less by the red car
75. $64 \times (\frac{1}{4})^2 = 64 \times \frac{1}{16} = 4$
76. $88 \times \frac{1}{2} = 44$
 $1 - 25\% = 1 - \frac{1}{4} = \frac{3}{4}$
 $44 \times \frac{3}{4} = \33
77. $37.5 \div 50 = 0.375 = 75\%$
78. $3.6 \div 12 = \$0.30$ (12-can)
 $2.40 \div 6 = \$0.40$ (6-can)
Ans= 10¢ per can
79. $12 \div (1 + \frac{1}{2}) = 8$
80. $12 \times (1 + \frac{1}{3}) = 16$
81. $4 \times 4 \times 4 \times 4 = 256$
82. $\frac{21}{15} = 1.4 \text{ (hr)} = 1 \text{ hr } 24 \text{ min}$
 $9:30 + 1:24 = 10:54 \text{ A.M.}$
83. B
84. A
85. 72°F

Answer Key

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|--|-------------------|
| 1. 10000, 100000, 1000000, 10000000 | 42. 3 |
| 2. 20000, 200000, 2000000, 20000000 | 43. 6 |
| 3. 30000, 300000, 3000000, 30000000 | 44. 10 |
| 4. 40000, 400000, 4000000, 40000000 | 45. 4 |
| 5. 50000, 500000, 5000000, 50000000 | 46. 9 |
| 6. 60000000, 60000, 600000000, 600000 | 47. 7 |
| 7. 700000000, 7000000, 70000, 7000000000 | 48. 4 |
| 8. 800000, 80000000, 8000000000, 80000 | 49. 5 |
| 9. 9000000, 9000000000, 900000, 9000000000 | 50. -2 |
| 10. 100000000, 100000, 1000000000, 1000000 | 51. 2 |
| 11. 60000 | 52. $\frac{2}{9}$ |
| 12. 18000 | 53. $\frac{1}{2}$ |
| 13. 140000 | 54. $\frac{5}{8}$ |
| 14. 600 | 55. $\frac{3}{4}$ |
| 15. 1200000 | 56. $\frac{7}{8}$ |
| 16. 160000 | 57. $\frac{5}{4}$ |
| 17. 90000 | 58. $\frac{7}{5}$ |
| 18. 8000 | 59. $\frac{1}{4}$ |
| 19. 10000 | 60. $\frac{4}{7}$ |
| 20. 400 | 61. $x = 6$ |
| 21. 10 | 62. 2 |
| 22. 8 | 63. $x = 4$ |
| 23. 0.6 | 64. $x = 3$ |
| 24. 18 | 65. $x = 2$ |
| 25. 0.9 | 66. $x = 1$ |
| 26. 0.6 | 67. $n = -12$ |
| 27. 14 | 68. -13 |
| 28. 1.2 | 69. 4 |
| 29. 40 | 70. $x = 1$ |
| 30. 16 | 71. 6 |
| 31. 1.5 | 72. 5 |
| 32. 2 | 73. 7 |
| 33. 2.5 | 74. 4 |
| 34. 3 | 75. 7 |
| 35. 3.5 | 76. 2 |
| 36. 4 | 77. 5 |
| 37. 4.5 | 78. 5 |
| 38. 5 | 79. 5 |
| 39. 5.5 | |
| 40. 10.5 | |
| 41. 5 | |

MAP 265 (T3) Issue 5

80. 2

81. $2 + 4x$

82. $10 - 10x$

83. $-6 + 8x$

84. $12 + 6x$

85. $2 - 10x$

86. $-12 - 24x$

87. $10 - 10x$

88. $26x + 8$

89. $-2 + 8x$

90. $16 + 24x$

91. $7x - 7$

92. $-10x - 8$

93. $-18x - 9$

94. $4x - 1$

95. $8x + 7$

96. $6x + 5$

97. $4x + 2$

98. $-18x + 9$

99. -12

100. $-4x - 4$

101. $6x^2 - 6x - 8$

102. $-6x^2 - 15x - 6$

103. $4x^2 - 11x - 25$

104. $-10x^2 - 21x + 10$

105. $-6x + 4$

106. $15 - 15x$

107. $2x + 2$

108. $-2 + 6x$

109. $2x^2 - 10x + 12$

110. $9x^2 - 11x + 6$

Answer Key

- | | |
|--------------------|--|
| 1. 27 | 40. 9 |
| 2. 32 | 41. $\frac{1}{8}$ |
| 3. 32 | 42. $\frac{1}{64}$ |
| 4. 32 | 43. $\frac{1}{9}$ |
| 5. 2 | 44. $\frac{1}{81}$ |
| 6. 64 | 45. $\frac{1}{4}$ |
| 7. 64 | 46. $\frac{1}{8}$ |
| 8. 81 | 47. $\frac{1}{16}$ |
| 9. 128 | 48. $\frac{1}{64}$ |
| 10. 128 | 49. $\frac{1}{4}$ |
| 11. 128 | 50. $\frac{1}{8}$ |
| 12. 243 | 51. $\frac{1}{4} + \frac{3}{2} = 1\frac{3}{4}$ |
| 13. 243 | 52. $\frac{8}{4} + \frac{2}{3} = 2\frac{2}{3}$ |
| 14. 256 | 53. $\frac{8}{5} + \frac{5}{6} = 2\frac{13}{30}$ |
| 15. 256 | 54. $\frac{1}{3} + \frac{1}{5} + \frac{2}{3} = 1\frac{1}{5}$ |
| 16. 256 | 55. $\frac{8}{5} + \frac{4}{1} + \frac{1}{3} = 5\frac{14}{15}$ |
| 17. 512 | 56. $\frac{2}{9} + \frac{3}{1} = 3\frac{2}{9}$ |
| 18. 512 | 57. $\frac{2}{7} + \frac{5}{2} = 2\frac{11}{14}$ |
| 19. 512 | 58. $\frac{10}{7} + \frac{1}{2} = 1\frac{13}{14}$ |
| 20. 729 | 59. $\frac{3}{8} + \frac{4}{1} + \frac{1}{2} = 4\frac{7}{8}$ |
| 21. $2\frac{1}{2}$ | 60. $\frac{2}{7} + \frac{3}{6} + \frac{3}{1} = 3\frac{11}{14}$ |
| 22. $\frac{1}{6}$ | 61. $30x^4y^4z^5$ |
| 23. $\frac{1}{2}$ | 62. $5x^5y^3z^5$ |
| 24. $\frac{1}{4}$ | 63. $4\frac{1}{xyz^2}$ |
| 25. $\frac{1}{3}$ | 64. $\frac{1}{3}\frac{1}{y^2z}$ |
| 26. $1\frac{1}{2}$ | 65. $1\frac{1}{2}x^3z$ |
| 27. $\frac{1}{2}$ | 66. $\frac{4}{5}xz^3$ |
| 28. $\frac{1}{2}$ | 67. $\frac{1}{10}\frac{1}{z}$ |
| 29. 2 | 68. $15\frac{x^2}{y}$ |
| 30. $1\frac{1}{3}$ | 69. $5x^3z^3$ |
| 31. 0.5 | 70. $1x^4z^3$ |
| 32. 0.5 | |
| 33. 0.5 | |
| 34. 0.8 | |
| 35. 0.8 | |
| 36. 0.8 | |
| 37. 0.6 | |
| 38. 0.6 | |
| 39. 64 | |

MAP 285 (T3) Issue 5

71. $(x - 5)(x + 9)$

72. $(x - 1)(x + 8)$

73. $(x - 7)(x - 5)$

74. $(x + 1)(x + 3)$

75. $(x - 4)(x + 6)$

76. $(x + 2)(x + 9)$

77. $2x^2 - 11x + 15 = (2x - 5)(x - 3)$

78. $3x^2 - 31x + 36 = (x - 9)(3x - 4)$

79. $(3x - 4)(4x - 1)$

80. $(2x - 5)(6x - 1)$

81. $(x + 3)(x + 5)$

82. $(x - 6)(x + 2)$

83. $(x - 9)(x + 2)$

84. $(x + 3)(x + 9)$

85. $x^2 + 6x + 9$

86. $x^2 - 6x + 9$

87. $4x^2 - 4x + 1$

88. $9x^2 - 6x + 1$

89. $25x^2 + 2x + 0.04$

90. $25x^2 + 10x + 1$

91. $36x^2 + 48x + 16$

92. $36x^2 - 24x + 4$

93. $81x^2 + 7.2x + 0.16$

94. $81x^2 + 54x + 9$

95. $(3x + 4)(3x - 8) = 0$
 $x = -4/3$ or $8/3$

96. $(3x + 5)(3x + 8) = 0$
 $x = -5/3$ or $-8/3$

97. $3(x + 6)(10x + 1) = 0$
 $x = -6$ or $-1/10$

98. $2(x - 2)(10x + 3) = 0$
 $x = 2$ or $-3/10$

99. $6(2x - 3)(5x - 2) = 0$
 $x = 3/2$ or $2/5$