

Answer Key

1. 0
2. 3
3. -4
4. $\frac{1}{2}$
5. undefined
6. $\frac{5}{3}$
7. $\frac{7}{5}$
8. $\frac{3}{4}$
9. $\frac{1}{6}$
10. $-\frac{1}{3}$
11. $Y = -X - 1$
12. $Y = -9/5X + 4$
13. $Y = -3X - 4$
14. $2X - Y = 8$
15. $-X + Y = 1$
16. $x^2 - 7x + 6$
17. $x^2 - x - 30$
18. $x^2 - 9x + 18$
19. $1.2x^2 - 4.8x - 14.4$
20. $15x^2 - 150x + 360$
21. $2.5x^2 - 7.5x - 45$
22. $1.5x^2 + 7x + 4$
23. $-2x^2 + \frac{1}{3}x + 4$
24. $12x^2 + 10x + 2$
25. $-3x^2 - 4.4x + 1$
26. $(8x + 7)(3x - 2)$
27. $(x + 1)(8x - 3)$
28. $8(8x + 9)(x - 1)$
29. $-2(8x + 3)(5x - 6)$
30. $-30(2x + 1)(5x - 6)$
31. $x = -5$
32. $x = 2$
33. $x = -5$
34. $y = -7/3$
35. $x = -3$
36. $x = 1$
37. $x = 9$
38. $x = 3$
39. $x = 3$
40. Let x be the length, then we have
 $2(x+6) = 28$
 $\Rightarrow 2x + 12 = 28$
 $\Rightarrow 2x = 16$
 $\Rightarrow x = 8$
41. D
42. $(-120) \times -\frac{1}{3} \times -\frac{1}{4} \times -\frac{1}{5} = 2$
43. $2x + 12 = (x + 2)^2$
 $2x + 12 = x^2 + 4x + 4$
 $x^2 + 2x - 8 = 0$
 $(x + 4)(x - 2) = 0$
 $x = 2$ or -4 (rediculed, why?)
 Ans = 2 (only)
44. B
 To compare the unit price is the best way to figure out which one is the cheaper. The unit price for the 20-piece pack is $10/20 = \$0.50$ while the unit price for the 40-piece pack is $12/40 = \$0.30$. So, the 40-piece pack is cheaper.
45. $26 \times 10 \times 9 = 2340$
46. $2(11 \times 5.5 + 5.5 \times 7 + 7 \times 11)$
 $= 2(18 \times 5.5 + 77)$
 $= 2(99 + 77)$
 $= 352 \text{ in}^2$
47. $9 \times 3 = 27$
 $27 - 5 - 11 = 11$ yrs old (Charles)
48. 80°
49. 200
50. $16 \times 8 = 128 \text{ (ft}^2\text{)}$
51. $3000 \times 12 = 36000$
 $36000 - 14000 - 17000$
 $= \$5000$
52. $14.4 \div 8 = 1.8$
 $1.8 \div 12 = \$0.15$
53. $140 = 2\frac{1}{3} \text{ hr}$
 $3 \times 2\frac{1}{3} = 7 \text{ in}$
54. 90
55. $\frac{150}{50} = 3 \text{ hr}$
 $\frac{150}{30} = 5 \text{ hr}$
 $3 + 5 = 8 \text{ hr}$
 $\frac{300}{8} = 37.5 \text{ mph.}$
56. $50 + 50 = 35 + 65$
 Ans = 65

MAP 280 (T1) Issue 12

57. Stone: $16 \times 12 = 192$ (bushels),
 Alvin: $15 \times 13 = 195$
 Thus, the total number of bushels is $192 + 195 = 387$.
58. $200 \div 8 = 25 \text{ ft}^2$
 $25 = 5 \times 5$
 5 ft = each side of the square base
 $2(5 \times 5 + 5 \times 8 + 5 \times 8) = 210 \text{ ft}^2$
59. The total measure of the interior angles of a quadrilateral is 360° .
 $1 + 2 + 3 + 4 = 10$
 $360 \times \frac{4}{10} = 144^\circ$
60. A pair of tricycle and a sedan has a 7 wheels.
 $56 \div 7 = 8$
 $2 \times 8 = 16$
61. 9.8×10^7
 Ans = 9.8 (for a) & 7 (for b)
62. C
63. $n = -120$
64. $\square = 4$ and $\triangle = -4$
 Ans = 4 & -4
65. $4^3 = 2^6$
 $\square = 6$
66. 1.0
67. $100 - 64 = 36$ ($\frac{1}{2}$ of water)
 $\frac{1}{2} + \frac{1}{6} = \frac{2}{3}$
 $36 \div 3 = 12$
 $64 + 12 = 76 \text{ lb}$
68. $2 \times 8 = 16$
 $1 \text{ hr } 50 \text{ min} + 2 \text{ hr } 10 \text{ min} = 4 \text{ hr}$
 $16 \div 4 = 4 \text{ mph}$
69. G:B
 $= 35:65$
 $= 7:13$
 $= 21:39$
 Ans = 39
70. B
71. D
72. B
73. 3
74. B
75. D
 $\text{diameter}^2 = 12^2 + 16^2 = 20^2$
76. $A:B:C = 3:6:2$
77. $3+6+2 = 11$
 $A+B+C = 143$
 $A = 143 \times \frac{3}{11} = 39$
78. slope (AB) = $-\frac{1}{2}$
 slope(BC) = $2 = \frac{11-5}{6-w}$
 $6 - w = 3$
 $w = 3$
79. $(3, 5) + (4, -2) = (7, 3)$
 Ans = 7 (x-coor) & 3 (y-coor)
- | | In 2 years | At present |
|-------|------------|------------|
| Bob | $2x$ | $2x - 2$ |
| Ellen | x | $x - 2$ |
80. $3B + 3E = 55$
 $3(2x - 2) + 2(x - 2) = 60$
 $7x = 70$
 $x = 10$
 Ellen = $10 - 2 = 8$