MAP 280 (T1)   Issue   4

Answer Key

1. -1
2. -0.04
3. -1.2
4. $\frac{4}{3}$
5. 0.4
6. -3
7. 2
8. 2.5
9. $\frac{-3}{4}$
10. 6
11. $(7x + 4)(8x - 7)$
12. $(5x + 4)(6x + 5)$
13. $(5x - 7)(7x + 4)$
14. $(x + 2)(10x - 3)$
15. $(x + 5)(4x - 3)$
16. $x^2 + 10x + 9$
17. $x^2 + 4x + 3$
18. $x^2 + 9x + 8$
19. $x^2 + 8x + 7$
20. $x^2 + 3x + 2$
21. $x^2 + 5x + 4$
22. $x^2 + 6x + 5$
23. $x^2 + 7x + 6$
24. $x^2 + 5x + 6$
25. $x^2 + 7x + 10$
26. $x = -4$
27. $x = 1$
28. $x = -5$
29. $x = 4$
30. $x = 3$
31. $x = -8$
32. $x = 1$
33. $x = -1$
34. $x = -3$
35. $x = 4$
36. 2¼
37. 90
38. $0.5^3 \times 0.6^3 = (0.5 \times 0.6)^3 = 0.3^3 = 0.027$
39. 0
40. 2

41. ⅟₇
42. 70
43. -1
44. 20
    12, 16, x) = 4(3, 4, 5), $x = 20$, the diameter is 20.
45. 122
    The circle has an area of $10^2\pi = 314$, the area of the shaded region is
    314 - 12×16
    = 314 - 192
    = 122
46. 1 yard = 3 ft
    1 sq. yard = 9 sq. ft
    18×10 = 180 sq. ft = 20 sq. yard
    15×20 = $300
47. area = 120
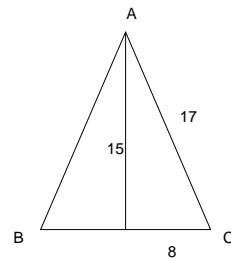
48. (72÷3)×0.35
    = 24×0.35
    = 12×0.7
    = $8.40
49. It needs 5 pieces of casserole
    Ans = 10 eggs & 15 ounces of butter
50. What is the width of the outer rectangle?
    20 + 2×5 = 30
    What is the length of inner rectangle?
    40 - 2×5 = 30
    The area of the path:
    40×30 - 30×20 = 1200 - 600 = 600 ft²
51. 1000 + 200×8 = 2600
    2600 - 2000)÷2000 = 30%
52. What part of the radio sets remains unsold after two-day sale? It is 1 - ⅓ - ½×⅔ = ⅓. Therefore, ⅔ is sold, twice as many as the remaining ones. The number of being sold is therefore
    50×2 = 100
53. 9×10×10×5 = 4500
54. ¼(144π) = 36π

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55. 6×40 = 240 (in)
    1 yard = 3 ft = 36 in
    6×36 = 216
    7×36 = 252
    Ans = 7 rolls (enough)

56. $\sqrt{36 \times 6}\sqrt{6 \times 9}$ = 6×6×3 = 108

57. $(125^4 \div 5^4)^3 = ((125 \div 5)^4)^3 = 25^{12}$
    $\square = 12$

58. 30 - 1 – 5 = 24

59. $\square = 1$

60. 4.8

61. For the single digit pages, we need only one ⓪-sticker, that is, page 0. For double-digit pages like X0, we need nine of ⓪-stickers.
    Ans = 10 stickers

62. $A{:}B = \frac{1}{2}{:}\frac{1}{3} = 3{:}2$
    $B{:}C = \frac{1}{4}{:}\frac{1}{5} = 5{:}4$
    $A{:}B{:}C = 15{:}10{:}8$
    $C = 24, A = 45, B = 30$
    $A+B = 75$

63. ∠ACB = 60° (alternate interior)
    ∠ABC = 50° (alternate interior)
    $x = 180° - ½(∠ABC + ∠ACB)$
    $= 180° - ½(50° + 60°)$
    $= 180° - 55° = \underline{125°}$

64. $a = -16$, ½(12)(16) = $\underline{96}$

65. (6 - 2)×180° = 720, $\frac{1}{6}$(720) = $\underline{120}$

66. $\frac{larger(\Delta ABC)}{smaller(\Delta EBD)} = \frac{16}{8} = \frac{AC}{B}$
    AC = 10

67. C
    2+3+4 = 9
    Note: 1, 2, 3 cannot form a triangle. Why?

68. D

69. $f(0) = -15$
    $4a - 3 = -15$
    $4a = -12$
    $a = -3$

70. 25% = .25 = $\frac{1}{4}$
    $0.25 \times 24 = \frac{1}{4} \times 24 = 6$ (hr)

71. $y = 110$
    $x = 30$
    $x + y = 140$
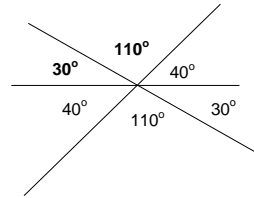
72. 81.25×0.08
    =8.125×0.8
    = $6.50
    81.25 + 6.50 = $87.75

73. C
    $p = 4k - 3$

74. D
    $p = 4k - 3$
    $k = \frac{1}{4}(p + 3)$

75. B
    Diameter = $10\sqrt{2}$
    Radius = $5\sqrt{2}$
    Circle area = $(5\sqrt{2})^2\pi = 50\pi$
    Area of the shaded region = $50\pi - 100$ (cm²)

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