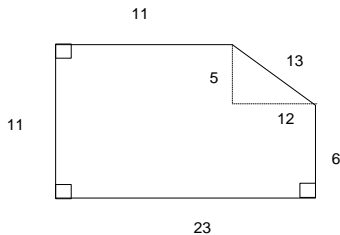MAP 280 (T1) Issue 1

Answer Key

1. 9

2. 8

3. $20\times3 - 12 - 15 = \boxed{33}$

4. $\begin{array}{r} 4 + 1\frac{5}{8} \\ - \quad 4 + \frac{1}{3} \end{array} = \begin{array}{r} 1\frac{5}{8} \\ - \quad \frac{1}{3} \end{array} = 1\frac{7}{24} = 1\ 7/24$

5. 64

6. 5:10 A.M. - 9:40 P.M.
   = 5:10 - 9:40 + 12:00 (next day)
   = 17:10 - 9:40
   = 7:30
   = 7 hr & 30 min

7. $\frac{3}{7} = \frac{9}{21} = \frac{12}{28}$
   $9+28 = \boxed{37}$

8. 93

9. ⅝ = 5/8

10. $72000\div6 + 600\div2 + 900\div20$
    = 12000+300+45
    = $\boxed{12345}$

11. $36\div4 = 9$
    $9\div3 = 3$ in (each side of a square)
    $3\times3\times5 = \boxed{45\ \text{in}^2}$

12. 9

13. 13 - 5 = 8 (length)
    8 - 2 - 2 = 4 (width)
    8×4 = 32 m² (area)

14. 150

15. $30\frac{3}{4} - 12\frac{5}{8} = 18\frac{1}{8} = 18\ 1/8$ pounds

16. 24×60 = 1440 min
    1440×7 = 10080 min

17. 60÷4 = 15
    15×3 = $\boxed{45}$

18. 14:15 - 8:55 = 5:20
    (5 hr 20 min)÷4 = $\boxed{1\ \text{hr \& 20 min}}$

19. 90+73+80 = 243
    243÷3 = $\boxed{81}$

20. 85×4 = 340
    340 - 243 = $\boxed{97}$

21. 16/81

22. 1

23. 0.5

24. .005

25. 3000

26. 6

27. $x = 4$

28. $\frac{1}{4}$ = 1/4

29. $1\frac{3}{5}$

30. 2

31. $4^5\div2^7 = 2^{10}\div2^7 = 2^3$
    $\square = 3$

32. 3

33. A

34. H(-6, -6)

35. 600×0.6 = \$360

36. 2,400,000÷3,000,000 = \$0.80

37. 20% : 80% = 1 : 4 = 25 : 100
    Saved: \$25

38. The area = $\frac{1}{2}\times12\times16$
    = $96 = \frac{1}{2}\times h\times20$
    $h = 9.6$ cm

39. Let x be the number of students.
    $3x + 5 = 4x - 21$
    $x = 26$

40. B
    24 + 16 = 40

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

42. -16

43. 8

44. 0.02×16% = 0.32%

45. 12

46. $16^2 = 256$
    $18^2 = 324$
    $20^2 = 400$
    $22^2 = 484$
    $24^2 = 576$
    Ans = 5 perfect squares

47. $5(x - 2) = 4(x + 6)$
    $5x - 10 = 4x + 24$
    $x = 34$

48. -8

49. 0.4×15 = 6
    6 + 10 = 16
    $\frac{16}{25} = 64\%$

50. 12÷5 = 2.4 hr = 2 hr & 24 min
    Note that 0.4 hr = 0.4×60 = 24 min)

51. 875

52. 4×40 = 160 mi

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280+

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53. 8 feet = $\frac{8}{3}$ yards
    15 feet = 5 yards
    $\frac{8}{3} \times 5 = \frac{40}{3}$ (sq. yards)
    $14.4 \times \frac{40}{3} = 4.8 \times 40 = \$192$

54. 1:3

55. the length of the slant side = 13 ($= \sqrt{5^2 + 12^2}$)
    11 + 11 + 23 + 6 + **13** = 64

56. 12

57. 2 hr 40 min = 2⅔ hr
    2⅔×360 = 720 + 240 = 960 miles

58. C

59. 6×12 = **9** ×8
    Ans = 8 (men)

60. 36×8 + 24×9 = 504
    504÷224 = 2.25 = 2¼ = 2 1/4 gal

61. 10

62. 25

63. -1.5×-8×-.02= -0.24

64. 400

65. 64

66. $y = 2$

67. Let x be the measure of the width. Then, the length is $2x + 5$. Thus, the perimeter is $2[x + (2x+5)] = 100$
    $6x + 10 = 100$
    $6x = 90$
    $x = 15$
    The length is 35. The area is 15×35 = 525 sq. inches.

68. speed $= \frac{\#rounds}{time}$
    A's speed is 9/8 = 27/24
    B's speed is 7/6 = 28/24
    Ans = 27 min (for a) & 28 min (for b)

69. 3.75÷30% = 3.75÷0.3 = \$12.50

70. 4 + (2 - (-7 + 6)) = 7
    7×3 = 21

71. $x = \{ 1, 3, 5 \}$

72. 23 + 32 = 55
    85 - 55 = 30
    One more 32¢ will be the least,
    so a total of 2×32 + 23 = 87¢

73. What is the total distance?
    72 + 32 = 104 (mi)
    What is the total time?
    $\frac{72}{12} + \frac{32}{8} = 10$
    What is the average speed?
    $\frac{104}{10} = 10.4$ (mph)

74. 104 + 1 = 105
    105÷3 = 35
    2×35 − 1 = 69

75. Let x and $2x + 15$ be complementary.
    $x + 2x + 15 = 90$
    $3x = 75$
    $x = 25$

76. $45 \times 3\frac{1}{3} = 135 + 15 = 150$ mi

77. 90÷45 = 2
    4.5÷45 = 0.1 = 6 min
    Ans = 2 hours & 6 min

78. A

79. C

80. C
    $11^2 = 121$
    $31^2 = 961$
    $32^2 = 1024$