Answer Key

1. 6
2. 100 - 98 + 66 - 64 + 2 = 6
3. 5
4. $\frac{13}{15}$ = 13/15
5. $10\frac{5}{24}$ = 10 5/24
6. 286
7. 25
8. 12 = 4×3
   15 = 5×3
   The least common multiple is 3×4×5 = 60
9. 1 - 75% = 25%
   200×25% = 50 acres
10. 20×⅕ = 4
    20 + 4 = $24
11. 6:15 P.M. - 6:30 A.M.
    = 18:15 - 6:30
    = 11¾ = 11 3/4 hr
12. 330÷40 = 8R10
    Ans = 9 boxes
13. D
    1 square yard = 9 sq. ft.
14. 80
15. There are two methods to find the radius.
    Method I)
    60÷2 = 30
    30 = 10 + 20
    radius = 10
    AB = 20
    Method II)
    2(1 + 2) = 6
    60÷6 = 10 (radius)

    $10^2\pi = 100\pi = 314$
    2×314 = 628 cm^2
16. $95
17. 3×0.8 + 2×0.95 + 2.5
    = 2.4 + 1.9 + 2.5
    = 6.8
    10 - 6.8 = $3.20
18. 64 = 8×8
    4×8 = 32 in
19. 12 (cups)
20. 3.50 - 0.25 = 3.25
21. $(\frac{1}{2})^2 - (\frac{1}{3})^3 = \frac{1}{4} - \frac{1}{27} = \frac{23}{108}$ = 23/108
22. 1 9/16
23. 0.9
24. 28/25
25. 12.5
26. 84
27. 3
28. -2
29. 3
30. 9
31. $\frac{1}{2}$ = 1/2
32. 91=7×13
    Ans = 7 & 13
33. 5×12 = 60
    $\frac{1}{3}$×12 = 4
    60 + 4 = 64
34. 80×70% = 80×.7 = $56
35. 5×12 ÷ 6 = 10 pieces of tile
    6×12÷6 = 12
    10×12 = 120 pieces
36. Let's split 12 into 3 parts: 2 for the tens digit, and 1 for the ones digit. So, tens digit is 8 and ones digit is 4.
    Ans = 84
37. F(6, 4)
38. -1.25
39. $\frac{1}{2}x - \frac{1}{3}x = 6$
    $\frac{1}{6}x = 6$
    $x = 36$
40. 180÷250= 72%
41. 0.16
42. -⅛ = -1/8
43. 5
44. $\frac{11}{5} \div \frac{11}{2} = \frac{11}{5} \times \frac{2}{11} = \frac{2}{5}$ = 2/5
45. 6
46. ½x + ⅔x = 14
    6(½x + ⅔x) = 6×14
    3x + 4x = 84
    7x = 84
    x = 12
47. Multiply both sides by 12:
    4(2x+3) = 3(x+6)
    4x+12 = 3x+18
    x = 6
48. $12.8 \times \frac{375}{1000}$ = 4.8 lb
49. 314
50. 123.45

51. $\frac{5000-4000}{4000}$ = ¼ = 25%

52. 6×12 = 8×9
12 - 9 = 3 (hr) saved

53. 15 - 2x ≤ 41

54. 60 - 6x ≤ 132

55. 3×2×8 = 48

56. 144 + 180 = 324
324 = 18^2
4×18 = 72 in

57. 210 - 190 = 20
20÷(¼ - ⅕) = 400
400×⅕ = 80
210 + 80 = 290

58. 1 - ⅛ = $\frac{7}{8}$
175÷$\frac{7}{8}$ = 200

59. 17÷250=0.068 = 6.8%
1 – 6.8% = 93.2%

60. 48 - 3 = 45
45 ÷ 1¼ = 36 books

61. 1½ = 1 1/2

62. $\frac{1}{64}$ = 1/64

63. 3n - 1 = 4
n = $1\frac{2}{3}$ = 1 2/3

64. $8^2 \times 2^3 = 4^{3+2} = 4^5$
□ = 5

65. B

66. D

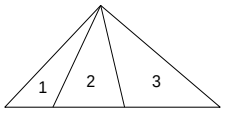
67. A
diameter = $\sqrt{6^2 + 8^2}$ = 10 cm
radius = 5 cm
area of the shaded region = 25π - 48 (cm^2)

68. 120°

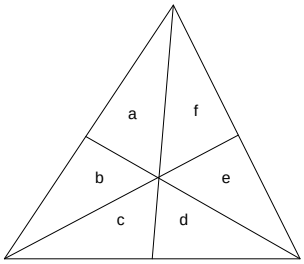
69. 15% : 25% = 3 : 5 = 360:**600**
Ans = 600

70. After Monday he got $\frac{3}{4}$ left, and he spent $\frac{2}{3}$ of it, so he has $\frac{1}{3}$ of $\frac{3}{4}$ left.
Ans = $\frac{1}{3}(\frac{3}{4}) = \frac{1}{4}$ = 1/4

71. C
There are
3 smaller sized triangles: (1), (2), (3)
2 medium sized triangles: (12), (23)
1 large sized triangle: (123)
1 + 2 + 3 = 6
Note: (13) is not a triangle.



72. D
From smallest to the largest:
6: a, b, c, d, e, f
3: ab, cd, ef
6: abc, bcd, cde, def, efa, fab
1: abcdef
total: 16



73. C
1 + 2^2 + 3^2 = 14

74. B
#(the smallest size triangles) = 9
#(the medium size triangles) = 3
#(the largest size triangle) = 1
9 + 3 + 1 = 13

75. 20 + $\frac{1}{3}x = 2x$
20 = $\frac{5}{3}x$
x = 12

76. 0.01

77. ½(5)(4) = 10

78. D
$\frac{3}{8} - \frac{1}{4} = \frac{1}{8}$
$\frac{1}{4} - \frac{3}{16} = \frac{1}{16}$
$\frac{3}{16} - \frac{1}{4} = \frac{1}{32}$
$\frac{1}{4} - \frac{15}{64} = \frac{1}{64}$

79. A: 36 = 6×6; 4×6 = 24
B: 24 - 12 = 12; 12÷4 = 3; 3×3 = 9 in^2

80. 11×1.1×11 = $133.10