CAREER POWER™
AN IIT/IIM ALUMNI COMPANY

RBI GRADE B OFFICER
SOLUTIONS
NUMERICAL ABILITY

61. (c) Let Radha's age= $9x$
Ruchi's age= $4x$
According to question
$9x - (4x + 5) = 5$
$9x - 4x = 10$
$x = 2$
Radha's age= $9 \times 2 = 18$
Ruchi's age= $4 \times 2 = 8$
Sum= 26 years

62. (c) Let C.P.= x
S.P.=114% of $x = 1.14x$
New C.P.= $x - 117$
% Profit= $14 + 9 = 23\%$
S.P. = 123% of $(x - 117) = 1.23(x - 117)$
According to question
$1.23(x - 117) = 1.14x - 117$
$x = 299$

63. Rate= $\frac{5049-4950}{4950} \times 100 = 2\%$

64. Let the initial amount of milk= x
$\therefore$ initial amount of water= $120 - x$
According to question
80% of x + 40% of $(120 - x) = 65\%$ of 120
$x = 75$
Ratio= 75 : 45 = 5 : 3

65. B. 8 km/hr
Explanation:
Let upstream speed = x, downstream speed = y km/hr
Then, 30/x + 44/y = 10 and 40/x + 55/y = 13
Put 1/x = a, 1/y = b
Solve the equations.
A = 1/5, b = 1/11
So, x = 5, y = 11
Speed in still water = (5+11)/2 = 8

66. (1); $x = 7; y = 2;\ x > y$

67. (3); $x = 2, \frac{11}{9}; y = 3, 4;\ x < y$

68. (4); $x = 4, \frac{-8}{3}; y = \frac{9}{2}, 4;$

69. (1); $x = 7, \frac{-2}{3}; y = \frac{-3}{2}, -4; x > y$

70. (5); $x = -7; y = 0, -9$; NO relation

71. (a) Total Student in D= 35% of 1200 =420
Total girls in D=30% of 800=240
Total boys in D=420-240=180
Ratio=180 : 240 = 3 : 4

72. (c) C and F has same number of boys (44).

73. (a) Total Student E=12% of 1200=144
Total girls E=14% of 800=12
Total boys E= 144-122=32
Req%=$\frac{112-32}{32} \times 100 = 250$

74. (d); No of boys in A is zero

75. Total girls in C=2% of 800=16

76. (a);

	Income	Expenditure	Profit%	Profit
2003	120	111.63	7.5	8.37
2004	160	139.13	15	20.87
2005	130	106.12	22.5	23.88
2006	170	144.68	17.5	25.32
2007	190	158.33	20	31.67
2008	150	117.65	27.5	23.35

Expenditure= $\frac{Income}{100+\%profit} \times 100$

77. (b) Total expenditure= $120 \times \frac{100}{107.5} + 160 \times \frac{100}{115} + 130 \times \frac{100}{122.5} + 170 \times \frac{100}{117.5} + 190 \times \frac{100}{120} + 150 \times \frac{100}{127.5} = 777.5$
Average= $\frac{777.5}{6} = 130$

78. (c) $\frac{20-17.5}{17.5} \times 100 = 14.2890$

79. (c); Expenditure= Income $\times \frac{100}{100+\%profit}$
$= 160 \times \frac{100}{100+15}$
=140 (approx)

80. (d); Expenditure= $190 \times \frac{100}{125} = 152$

81. (5) The pattern is $\times 3 + 2, \times 3 + 2, \times 3 + 2, \ldots\ldots\ldots\ldots$

82. (1) The pattern is $\times 1 + 1^2, \times 2 + 2^2, \times 3 + 3^2, \times 4 + 4^2, \ldots\ldots\ldots\ldots$

83. (4) The pattern is $\times 2 - 1,\ \times 2 - 1,\ \times 2 - 1, \times 2 - 1, \ldots\ldots\ldots\ldots$

84. (2) The pattern is $\times 2 - 1,\ \times 2 - 1,\ \times 2 - 1, \times 2 - 1, \ldots\ldots\ldots\ldots$

85. (3) The pattern is $\times 0.5 + 0.5,\ \times 1.5 + 1.5,\ \times 2.5 + 2.5,\ \times 3.5 + 3.5$

86. (4) All I, II, III together.

87. (5) Any two statement together

88. (4) Any two

89. (4)$({}^3C_2 + {}^4C_2) \div {}^{12}C_2 = \frac{3}{22}$

90. (2)Let upstream speed = x, downstream speed = y km/hr
Then, 30/x + 44/y = 10 and 40/x + 55/y = 13
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