

SBI Clerk Prelims 2020 – Quantitative Aptitude (Solutions)

36. (d); Required average = $\frac{450+420+450}{3} = 440$

37. (a); Total male participated from school – B & D together = $540 + 560 = 1100$
Total female participated from school – A & C together = $450 + 500 = 950$
Required difference = $1100 - 950 = 150$

38. (d); Total male participated from school – B & C together = $540 + 720 = 1260$
Total female participated from school – A & D together = $450 + 450 = 900$
Required % = $\frac{1260-900}{900} \times 100 = 40\%$

39. (b); Total students participated from school F = $\frac{140}{100} \times 650 + 420 \times \frac{32}{21} = 910 + 640 = 1550$

40. (b); Total number of male students participated from all the five schools = $(650 + 540 + 720 + 560 + 680) = 3150$

41. (b); Pattern of series –

42. (a); Pattern of series –

43. (d); Pattern of series –

44. (e); Pattern of series –

45. (e); Pattern of series –

46. (d); let total work be 360 units
Efficiency of 1 man = $\frac{360}{12 \times 10} = 3$ units/day
Efficiency of 1 woman = $\frac{360}{10 \times 18} = 2$ units/day
Required time = $\frac{360}{4 \times 3 + 6 \times 2} = 15$ days

47. (a); distance = 240 kms
Required speed = $\frac{240}{2.5} = 96$ kmph
Required % = $\frac{96-60}{60} \times 100 = 60\%$

48. (b); Let 10 years ago, ages of Ram and Rahim were x years and 3x years, respectively.

Then, present age of Ram = $(x + 10)$
and present age of Rahim = $(3x + 10)$

According to the question,

$$\frac{x+10+5}{3x+10+5} = \frac{2}{3}$$

$$\Rightarrow 3x + 45 = 6x + 30$$

$$\Rightarrow 3x = 15$$

$$\therefore x = 5$$

Hence, required ratio = $\frac{5+10}{3 \times 5 + 10}$
 $= \frac{15}{25} = 3 : 5$

49. (b); required time = $\frac{140+120}{(132-80) \times \frac{5}{18}}$
 $= \frac{260 \times 18}{52 \times 5} = 18$ sec

50. (c); let CP of book be Rs x
SP = Rs 1.2x
New CP = Rs 0.9x
New SP = Rs 1.2x + 90
ATQ, $0.9x \times \frac{140}{100} = 1.2x + 90$
 $1.26x = 1.2x + 90$
 $x = \text{Rs } 1500$

51. (a); I. $x = 5$
II. $y = 5$
So, $x=y$

52. (d); I. $x^2 + 7x - 5x - 35 = 0$
 $x(x+7) - 5(x+7) = 0$
 $(x+7)(x-5) = 0$
 $x = -7, 5$
II. $y^2 + 7y + 8y + 56 = 0$
 $y(y+7) + 8(y+7) = 0$
 $(y+7)(y+8) = 0$
 $y = -8, -7$
So, $x \geq y$

53. (a) I. $x = \pm 9$
II. $y = \pm 8$
So, no relation can be established

54. (a); I. $17x^2 - 14x - 3 = 0$
 $17x^2 - 17x + 3x - 3 = 0$
 $17x(x-1) + 3(x-1) = 0$
 $(17x+3)(x-1) = 0$
 $x = -\frac{3}{17}, 1$
II. $y^2 - 2y - 35 = 0$
 $y^2 - 7y + 5y - 35 = 0$
 $y(y-7) + 5(y-7) = 0$
 $y = 7, -5$
So, no relation can be established

55. (e); I. $x^2 + 9x - 5x - 45 = 0$

$$x(x + 9) - 5(x + 9) = 0$$

$$(x - 5)(x + 9) = 0$$

$$x = 5, -9$$

II. $y^2 - 5y - 8y + 40 = 0$

$$y(y - 5) - 8(y - 5) = 0$$

$$(y - 5)(y - 8) = 0$$

$$y = 5, 8$$

$$\text{So, } x \leq y$$

56. (e); let initial quantity of milk & water be $5x$ & $3x$ lit respectively

$$\text{ATQ, } \frac{5x+8}{3x} = \frac{11}{5}$$

$$25x + 40 = 33x \Rightarrow x = 5$$

$$\text{required difference} = 5x - 3x = 2x = 10 \text{ lit}$$

57. (a); let rate of interest be $R\%$

$$\text{ATQ, } 1200 = \frac{6000 \times R \times 2}{100}$$

$$R = 10\%$$

Since compounding is done half-yearly, rate of interest = 5%

$$\text{Effective rate of interest} = 5 + 5 + \frac{5 \times 5}{100} = 10.25\%$$

$$\text{Required interest} = \frac{6000 \times 10.25 \times 1}{100} = \text{Rs } 615$$

58. (b); let speed of boat in still water & speed of stream be $7x$ & $3x$ kmph respectively

$$\text{ATQ, } \frac{28}{7x+3x} = \frac{42}{60}$$

$$x = 4$$

$$\text{Required difference} = \frac{40}{7x-3x} - \frac{60}{7x+3x} = \frac{4}{x} = 1 \text{ hour}$$

59. (d); let amount invested by A be Rs x

$$\text{Profit ratio; } A : B = (x \times 12) : (17000 - x) \times 6 + (15500 - x) \times 6$$

$$= 2x : (32500 - 2x)$$

$$\text{ATQ, } \frac{19500}{32500 - 2x + 2x} \times (32500 - 2x) = 8100$$

$$32500 - 2x = 13500$$

$$x = \text{Rs } 9500$$

$$\text{Required capital of B after 6 months}$$

$$= 15500 - x = \text{Rs } 6000$$

60. (c); let length & breadth of rectangle be x & y m respectively

$$\text{ATQ, } 1.4xy - xy$$

$$xy = 60 \dots\dots\dots$$

$$\text{also, } 2(x + y) = 32$$

$$x + y = 16 \dots\dots\dots\text{(ii)}$$

from (i) & (ii)

$$x = 10 \text{ m, } y = 6 \text{ m}$$

$$\text{breadth of rectangle} = 6 \text{ m}$$

61. (d); $? = 170 - 35$

$$? = 135$$

62. (a); $(12 + 13) \times 3 = \frac{?}{5}$

$$? = 375$$

63. (c); $? = (3 \times 5) \times 8$

$$? = 120$$

64. (b); $\left(\frac{120}{100} \times 750\right) \div ? = 25$

$$? = 900 \div 25$$

$$? = 36$$

65. (d); $? = (8 - 4 + 3) + \frac{6-10+7}{12}$

$$? = 7 \frac{1}{4}$$

66. (e); $275 + \frac{64}{100} \times 750 = 750 + ?$

$$275 + 480 = 750 + ?$$

$$? = 5$$

67. (a); $? = 15 + 9 + 144$

$$? = 168$$

68. (c); $\frac{510}{?} = 18 + 3.25$

$$? = 24$$

69. (d); $\frac{12.5}{100} \times (120 + ?) = 45$

$$120 + ? = 360$$

$$? = 240$$

70. (c); $44 \times 12 - 16 = (8)^?$

$$528 - 16 = (8)^?$$

$$? = 3$$