

BOOKS



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S36. Ans.(b)

Sol. male population who did not visit park A = $\frac{20}{100} \times \frac{60}{100} \times 400 = 48$

Male population who visited in park A = $400 - (150 + 48) = 202$

Required % = $\frac{202}{500} \times 100 = 40.4\%$

S37. Ans.(d)

Sol. male population in park B, C & D = $(500 - 200) + (700 - 350) + (800 - 450) = 1000$

Required average = $\frac{1000}{3} = 333.33$

S38. Ans.(e)

Sol.

Male population in park E = $900 - 500 = 400$

Required % = $\frac{450-400}{400} \times 100 = 12.5\%$

S39. Ans.(a)

Sol. male population in p

Required ratio = $600 : (2$

S40. Ans.(c)

Sol. total female populat

Female population above

Required average = $\frac{1650-}{5}$

S41. Ans.(b)

Sol. let present age of A &

$$\frac{x-4}{y-4} = \frac{5}{3}$$

$$3x - 12 = 5y - 20$$

$$3x = 5y - 8 \dots\dots\dots (i)$$

Let present age of C be z years

$$x + y + z = 80$$

$$x + y = z$$

$$x + y = 40 \dots\dots\dots (ii)$$

On solving (i) & (ii)

$$x = 24 \text{ years}$$

Present age of A = 24 years

S42. Ans.(d)

Sol. let speed of boat in still water & stream be 8x kmph & x kmph respectively

$$\text{ATQ, } \frac{54}{8x+x} + \frac{42}{8x-x} = 4$$

$$\frac{6}{x} + \frac{6}{x} = 4$$

$$x = 3$$

Downstream speed = $8x + x = 27 \text{ kmph}$



S43. Ans.(a)**Sol.** let salary of Manoj be Rs $100x$

$$\text{Amount given to wife} = \frac{60}{100} \times 100x = \text{Rs. } 60x$$

$$\text{ATQ, } 60x \times \frac{50}{100} = 18000$$

$$x = 600$$

$$\text{Salary of Manoj} = 100x = \text{Rs } 60000$$

S44. Ans.(c)**Sol.** let length & breadth of rectangle be $4x$ cm & $7x$ cm

$$\text{ATQ, } 2(4x + 7x) = 88$$

$$x = 4$$

$$\text{Area of rectangle} = 4x \times 7x = 448 \text{ cm}^2$$

S45. Ans.(b)**Sol.** radius of second circle = $1.5 \times 14 = 21 \text{ cm}$

$$\text{Required area of circle} = \pi r^2 = \frac{22}{7} \times 21 \times 21 = 1386 \text{ cm}^2$$

S46. Ans.(e)**Sol.**

$$\text{I. } x^2 - 7x + 12 = 0$$

$$x^2 - 4x - 3x + 12 = 0$$

$$(x - 4)(x - 3) = 0$$

$$x = 3, 4$$

$$\text{II. } y^2 - 8y + 12 = 0$$

$$y^2 - 6y - 2y + 12 = 0$$

$$(y - 6)(y - 2) = 0$$

$$y = 2, 6$$

No relation can be established

**S47. Ans.(d)****Sol.**

$$\text{I. } 2x^2 + x - 28 = 0$$

$$2x^2 + 8x - 7x - 28 = 0$$

$$2x(x + 4) - 7(x + 4) = 0$$

$$(2x - 7)(x + 4) = 0$$

$$x = -4, \frac{7}{2}$$

$$\text{II. } 2y^2 - 23y + 56 = 0$$

$$2y^2 - 16y - 7y + 56 = 0$$

$$2y(y - 8) - 7(y - 8) = 0$$

$$(2y - 7)(y - 8) = 0$$

$$y = \frac{7}{2}, 8$$

$$y \geq x$$

S48. Ans.(e)**Sol.**

I. $2x^2 - 7x - 60 = 0$

$2x^2 - 15x + 8x - 60 = 0$

$x(2x - 15) + 4(2x - 15) = 0$

$(x + 4)(2x - 15) = 0$

$x = -4, \frac{15}{2}$

II. $3y^2 + 13y + 4 = 0$

$3y^2 + 12y + y + 4 = 0$

$3y(y + 4) + 1(y + 4) = 0$

$(3y + 1)(y + 4) = 0$

$y = -\frac{1}{3}, -4$

No relation between x and y

S49. Ans.(e)**Sol.**

I. $x^2 - 17x - 84 = 0$

$x^2 + 4x - 21x - 84 = 0$

$(x + 4)(x - 21) = 0$

$x = -4, 21$

II. $y^2 + 4y - 117 = 0$

$y^2 - 9y + 13y - 117 = 0$

$(y - 9)(y + 13) = 0$

$y = 9, -13$

No relation between x and y

**S50. Ans.(d)****Sol.**

I. $x^2 = 81$

$x = \pm 9$

II. $(y - 9)^2 = 0$

$y = 9$

Clearly, $x \leq y$ **S51. Ans.(d)****Sol.** total population of city A = $300 + 400 = 700$ Total population of city D = $450 + 550 = 1000$

Required % = $\frac{1000-700}{1000} \times 100 = 30\% \text{ less}$

S52. Ans.(a)

Sol. total graduate population = $\frac{70}{100} \times (300 + 400) = 490$

Female graduate population = $\frac{4}{7} \times 490 = 280$

Female population who is not graduate = $400 - 280 = 120$

S53. Ans.(e)

Sol. required average = $\frac{300+550+500+450+350}{5} = \frac{2150}{5} = 430$

S54. Ans.(b)

Sol. required % = $\frac{350}{400} \times 100 = 87.5\%$

S55. Ans.(d)

Sol.

Postgraduate population in city B = $300 + 400 = 700$

Postgraduate population in city C = $\frac{8}{7} \times 700 = 800$

Required ratio = $(1000 - 700) : (900 - 800) = 300 : 100 = 3 : 1$

S56. Ans.(b)

Sol. when X liter milk is taken out

Quantity of milk left = $(240 - X)$ lit

Quantity of water = X lit

When 20% of mixture taken out

Remaining quantity of milk = $192 - 0.8X$

Remaining quantity of water = $40 = (0.8X)$

ATQ, $(192 - 0.8X) - (0.8X)$

$16 = 1.6X$

$X = 10$

S57. Ans.(c)

Sol.

	Time (days)	Work (units)	Efficiency (units/day)
A	36	144	4
B	48		3

Work completed by A and B in mentioned days = $\frac{1}{3} \times 144 = 48 \text{ units}$

ATQ, $4x + 3(x + 2) = 48$

$x = 6$

S58. Ans.(a)

Sol. let cost price be Rs. $100x$

Marked price = $\frac{140}{100} \times 100x = \text{Rs } 140x$

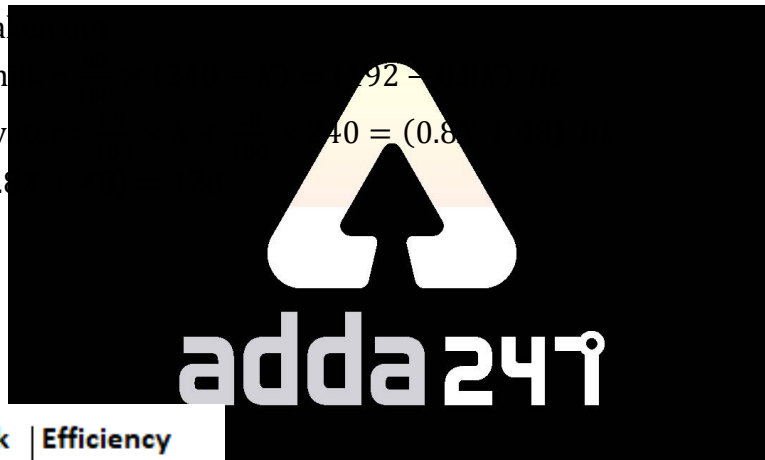
Selling price = $\text{Rs } (140x - 224)$

Selling price after tax = $\frac{110}{100} \times (140x - 224) = \text{Rs } (154x - 246.4)$

ATQ, $100x + 158.6 = 154x - 246.4$

$x = 7.5$

Cost price of article = $100x = \text{Rs } 750$



S59. Ans.(b)**Sol.**Let period of investment of Pinki and Rinki be $2x$ and $3x$ units respectively

Ratio of profit share

Pinki		Rinki
$6000 \times 2x$	:	$9000 \times 3x$
4	:	9

Profit share of Pinki = Rs 20,000

S60. Ans (c)**Sol.**

ATQ

$$\frac{x}{40} - \frac{x+20}{60} = 2$$

$$x = 280 \text{ km}$$

$$\text{Required time} = \frac{320}{40} = 8 \text{ hours}$$

S61. Ans.(c)**Sol.**

$$111.01 + 41.23 + (4.96)^2 + (2.09)^2 = ?$$

$$111 + 41 + 5^2 + 2^2 = ?$$

$$? = 152 + 25 + 4 = 181$$

S62. Ans.(a)**Sol.**

$$109.07\sqrt{?} - \frac{61}{21.02} \times ? = 47$$

$$109\sqrt{?} - 48\sqrt{?} \approx \frac{61}{21} \times ?$$

$$61\sqrt{?} = \frac{61}{21} \times ?$$

$$? = 441$$

**S63. Ans.(d)****Sol.**

$$1332.89 + 171.928 + 17.01 + ?^2 = 1690.67$$

$$1333 + 172 + 17 - 1691 \approx -?^2$$

$$?^2 = 169$$

$$? = 13$$

S64. Ans.(b)**Sol.**

$$150.09\% \text{ of } 20 + \frac{322.9}{17.02} + \sqrt{?} = (8.96)^2$$

$$30 + 19 + \sqrt{?} = 81$$

$$? = 1024$$

S65. Ans.(b)**Sol.**

$$56.08\% \text{ of } 149.92 + \sqrt{28.02 \times 6.98} - 11\frac{1}{9}\% \text{ of } 998.9 = ?$$

$$56\% \text{ of } 150 + \sqrt{28 \times 7} - \frac{1}{9} \times 999 \approx ?$$

$$84 + 14 - 111 = -13$$

Solutions (66-70):-

Let number of girls in hostel B=100x

Then number of boys in hostel B=200x

Number of girls in hostel A= 130x

Number of boys in hostel C=120+100=220

Number of girls in hostel C=1000-220=780

Total number of girls in hostel A and that of in hostel D=446

Number of girls in hostel D=(446-130x)

Number of boys in hostel D=302

ATQ

$200x-302=98$

$x=2$

Hostels	Boys	Girls
A	120	260
B	400	200
C	220	780
D	302	186

S66. Ans (b)

Sol. Required percent = $\frac{(3)}{(4)}$

S67. Ans (a)

Sol. Required difference = $1000 + 260 = 1260$

S68. Ans (a)

Sol. Required ratio = $\frac{600}{1000}$

S69. Ans (d)

Sol.

Required average = $\frac{100+380}{4} = 240.5$

S70. Ans (b)

Sol. Total number of boys in hostel A and that of girls in hostel C=900

Required % = $\frac{900-400}{400} \times 100 = 125\%$

