

**Q41.** The upstream speed of a boat is 18 km/hr which is 500% more than the speed of stream. Find how much distance boat will cover in 3 hours while travelling in downstream.

- (a) 66 km
- (b) 63 km
- (c) 72 km
- (d) 75 km
- (e) 78 km

**Q42.** If  $A^2 - B^2 = 252$  and  $A + B = 42$  then find the value of 'B'?

- (a) 18
- (b) 16
- (c) 14
- (d) 20
- (e) 22

**Q43.** A alone can do a work in 40 days. The ratio of time taken by A and B to do the same work is 5 : 3. Then, find in how many days both will complete the work together ?

- (a) 18 days
- (b) 12 days
- (c) 20 days
- (d) 15 days
- (e) 10 days

**Q44.** A train having speed of 72 km/hr crosses a pole in 18 sec and a platform in 33 sec. Find the length of platform?

- (a) 320 m
- (b) 300 m
- (c) 330 m
- (d) 360 m
- (e) 350 m

**Q45.** The circumference of a circle is 66 cm. Find the approximate area of square if the radius of circle is two times of the side of a square.

- (a) 18 cm<sup>2</sup>
- (b) 32 cm<sup>2</sup>
- (c) 25 cm<sup>2</sup>
- (d) 36 cm<sup>2</sup>
- (e) 28 cm<sup>2</sup>

**Directions (46-50):** What approximate value should come in place of question mark (?) in the following questions?

**Q46.**  $\sqrt{1443.98} \div 18.98 + 328.1 = ? \times 22.01$

- (a) 10
- (b) 12
- (c) 18
- (d) 15
- (e) 22

**Q47.** 29.98% of 880.001 = ? + 110.9

- (a) 144
- (b) 153
- (c) 158
- (d) 160
- (e) 163

**Q48.**  $(?)^2 + 255.93 = 49.932\% \text{ of } 800.112$

- (a) 12
- (b) 8
- (c) 15
- (d) 18
- (e) 6

**Q49.**  $\sqrt[3]{1728.01} + ? = 256.01$

- (a) 230
- (b) 235
- (c) 238
- (d) 241
- (e) 244

**Q50.** 74.91% of ? =  $(17.932)^2$

- (a) 420
- (b) 425
- (c) 408
- (d) 432
- (e) 444

**Directions (51-55): Find the wrong number in the given number series questions.**

**Q51. 100, 118, 136, 149, 160, 167, 172**

- (a) 172
- (b) 160
- (c) 100
- (d) 118
- (e) 136

**Q52. 1.5, 2.5, 6, 24, 100, 505, 3036**

- (a) 1.5
- (b) 6
- (c) 100
- (d) 3036
- (e) 2.5

**Q53. 160, 80, 80, 120, 240, 600, 900**

- (a) 240
- (b) 120
- (c) 160
- (d) 900
- (e) 600

**Q54. 5040, 2520, 840, 210, 42, 8, 1**

- (a) 8
- (b) 5040
- (c) 840
- (d) 1
- (e) 42

**Q55. 15, 17, 26, 151, 200, 929, 1050**

- (a) 17
- (b) 1050
- (c) 15
- (d) 929
- (e) 26

**Direction (56-60):** There are total five departments in a company. There are total 90 employees in Finance department which is 25% of total employees in the company.  $\frac{2}{9}$  of the total employees of the company are working in HR department. Employees working in Sales department is 25% more than that in HR department. Ratio between employees working in Security and Housing department is 4 : 5.

**Q56.** Find number of employees working in HR department is what percent more than number of employees working in Security department?

- (a) 250%
- (b) 200%
- (c) 150%
- (d) 100%
- (e) 50%

**Q57.** Find the average number of employees working in Sales, Finance and Housing department?

- (a) 60
- (b) 70
- (c) 80
- (d) 90
- (e) 100

**Q58.** Number of employees in Housing department is how much more than number of employees in Security department?

- (a) 10
- (b) 20
- (c) 30
- (d) 40
- (e) 50

**Q59.** In Security department, 40% are female employees then find total male employees working in Security department?

- (a) 16
- (b) 40
- (c) 32
- (d) 8
- (e) 24

**Q60.** Ratio between total number of male and female employees in HR department is 2 : 3. Find total number of female employees working in HR department?

- (a) 32
- (b) 48
- (c) 64
- (d) 40
- (e) 56

**Directions (61-70):** What value should come in place of question mark (?) in the following questions?

**Q61.**  $?^2 = 4^2 + 8^2 - 31$

- (a) 6
- (b) 7
- (c) 8
- (d) 9
- (e) 10

**Q62.**  $13 \times 6 + ? \times 4 = 18 \times 7$

- (a) 6
- (b) 8
- (c) 10
- (d) 12
- (e) 14

**Q63.**  $40\% \text{ of } ? = 25\% \text{ of } 320 + 75\% \text{ of } 160$

- (a) 500
- (b) 400
- (c) 300
- (d) 200
- (e) 100

**Q64.**  $11^2 + 6^2 = ? + 37$

- (a) 130
- (b) 110
- (c) 120
- (d) 140
- (e) 150

**Q65.**  $\frac{360}{?} = 12 \times 6 - 3^3$

- (a) 9
- (b) 5
- (c) 6
- (d) 7
- (e) 8

**Q66.**  $\sqrt{225} + \sqrt{441} = ?^2$

- (a) 3
- (b) 4
- (c) 5
- (d) 6
- (e) 8

**Q67.**  $16 \times 8 - ? = 2^6$

- (a) 64
- (b) 32
- (c) 128
- (d) 192
- (e) 96

**Q68.**  $16 \times 54 \div 36 + 6 = ?$

- (a)  $\frac{144}{7}$
- (b) 30
- (c) 20
- (d) 24
- (e) 16

**Q69.**  $? = \sqrt{6 \times 3 \times 5 + 50\% \text{ of } 620}$

- (a) 14
- (b) 16
- (c) 18
- (d) 10
- (e) 20

**Q70.**  $6^2 = \frac{18 \times 8 - ? \times 2}{3}$

- (a) 36
- (b) 27
- (c) 18
- (d) 9
- (e) 54

**Directions (71-75):** Table given below shows marks obtained by four students in four different subjects in an exam. Study the data carefully and answer the following questions.

Subjects Students	English	Hindi	Science	Maths
Paul	65	60	80	65
Aditya	75	75	60	75
Neeraj	85	55	95	85
Sandy	60	60	65	60

**Q71. Marks scored by Sandy in English and Maths together is what percent of the Marks scored by Aditya and Neeraj in English together?**

- (a) 25%
- (b) 50%
- (c) 75%
- (d) 100%
- (e) 125%

**Q72. Find the ratio of total marks scored by all four students together in Hindi to total marks scored by all four students together in Science?**

- (a) 5 : 6
- (b) 57 : 50
- (c) 1 : 1
- (d) 20 : 19
- (e) 6 : 5

**Q73. Total marks scored by Paul are how much more/less than total marks scored by Neeraj?**

- (a) 70
- (b) 60
- (c) 40
- (d) 50
- (e) 80

**Q74. Find the average of the marks scored by Aditya in English, Hindi and Science together?**

- (a) 65
- (b) 85
- (c) 80
- (d) 75
- (e) 70

**Q75. If maximum marks for each subject are 100 then find what percentage of total marks is obtained by Sandy?**

- (a) 64.25%
- (b) 61.25%
- (c) 67.25%
- (d) 70.25%
- (e) 73.25%

**Q76. An article was sold at a discount of 20% at Rs. 1020. If the article was sold at discount of Rs. 199 in place of 20% discount then find the selling price.**

- (a) Rs. 1066
- (b) Rs. 1076
- (c) Rs. 1086
- (d) Rs. 1096
- (e) Rs. 1094

**Q77. The total age of A, B and C four years hence will be 98 years. Find the age of C four years hence if the present age of A and B is 32 years and 23 years respectively.**

- (a) 31 yr.
- (b) 32 yr.
- (c) 35 yr.
- (d) 37 yr.
- (e) 33 yr.

**Q78. A invests Rs. 12,000 for X months while B invests Rs. 16,000 for 9 months in a scheme. The profit share of B is Rs. 12,000 out of total profit Rs. 21,000. Then find the value of X ?**

- (a) 6 months
- (b) 9 months
- (c) 8 months
- (d) 7 months
- (e) 10 months

**Q79. A mixture of milk and water contains 60% milk and remaining water. How much water should be added (in percentage) in mixture to reverse the proportion of milk and water?**

- (a) 25%
- (b) 37.5%
- (c) 62.5%
- (d) 75%
- (e) 50%

**Q80. The simple interest on a certain sum for 2 years at 8% per annum is Rs. 225 less than the compound interest on the same sum for 2 years at 10% per annum. The sum is:**

- (a) Rs. 3200
- (b) Rs. 4200
- (c) Rs. 4000
- (d) Rs. 3600
- (e) Rs. 4500



## Solutions

### S41. Ans.(c)

**Sol.** Let the speed of stream be  $x$  km/hr

Then,

$$\text{Speed of upstream} = x \times \frac{600}{100} = 18$$

$$\Rightarrow x = 3 \text{ km/hr}$$

$$\text{Speed of boat in still water} = 18 + 3 = 21 \text{ km/hr}$$

$$\text{Distance covered in 3 hours in downstream} = (21 + 3) \times 3 = 72 \text{ km}$$

### S42. Ans.(a)

$$\text{Sol. } (A + B)(A - B) = 252$$

$$\Rightarrow 42 \times (A - B) = 252 \text{ [} A + B = 42 \text{ given]}$$

$$\Rightarrow (A - B) = 6 \dots (i)$$

$$\text{And } A + B = 42 \dots (ii)$$

Solve (i) and (ii), we get

$$B = 18$$

### S43. Ans.(d)

**Sol.** Let the time taken by A and B be  $5x$  days and  $3x$  days respectively.

$$\Rightarrow 5x = 40 \text{ days}$$

$$\Rightarrow x = 8 \text{ days}$$

$$B's \text{ time} = 3 \times 8 = 24 \text{ days}$$

Time taken by both together to complete the work

$$= \frac{40 \times 24}{40 + 24} \text{ [use } \frac{a \times b}{a + b} \text{ for two persons]}$$

$$= 15 \text{ days.}$$

### S44. Ans.(b)

$$\text{Sol. Speed of train} = 72 \text{ km/hr} = 72 \times \frac{5}{18} = 20 \text{ m/s}$$

$$\text{Length of train} = 18 \times 20 = 360 \text{ m}$$

$$\text{Length of (train + platform)} = 20 \times 33 = 660 \text{ m}$$

$$\therefore \text{length of platform} = 660 \text{ m} - 360 \text{ m} = 300 \text{ m}$$

### S45. Ans.(e)

**Sol.** ATQ,

$$2\pi r = 66 \text{ cm}$$

$$\Rightarrow 2 \times \frac{22}{7} \times r = 66 \text{ cm}$$

$$\Rightarrow r = \frac{66 \times 7}{44} = \frac{21}{2} \text{ cm}$$

$$\text{Side of a square} = \frac{21}{2 \times 2} = \frac{21}{4} \text{ cm}$$

$$\therefore \text{Area of square} = (\text{side})^2 = \left(\frac{21}{4}\right)^2$$

$$= \frac{441}{16} \approx 28 \text{ cm}^2$$

**S46. Ans.(d)**

**Sol.**  $\sqrt{1444} \div 19 + 328 = ? \times 22$

$$\Rightarrow 2 + 328 = ? \times 22$$

$$\Rightarrow ? = \frac{330}{22} = 15$$

**S47. Ans.(b)**

**Sol.** 30% of 880 = ? + 111

$$\Rightarrow \frac{30 \times 880}{100} = ? + 111$$

$$\Rightarrow ? = 264 - 111 = 153.$$

**S48. Ans.(a)**

**Sol.**

$$(?)^2 + 256 = \frac{50 \times 800}{100}$$

$$(?)^2 + 256 = 400$$

$$\Rightarrow (?)^2 = 144$$

$$\Rightarrow ? = 12$$

**S49. Ans.(e)**

**Sol.**  $12 + ? = 256$

$$\Rightarrow ? = 244$$

**S50. Ans.(d)**

**Sol.**

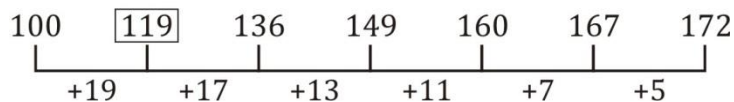
$$\frac{75 \times ?}{100} = (18)^2$$

$$\Rightarrow \frac{75 \times ?}{100} = 324$$

$$\Rightarrow ? = \frac{324 \times 100}{75} = 432.$$

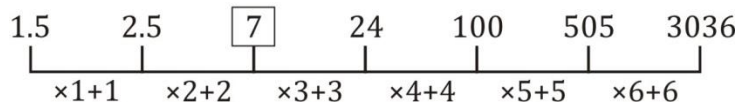
**S51. Ans.(d)**

**Sol.**



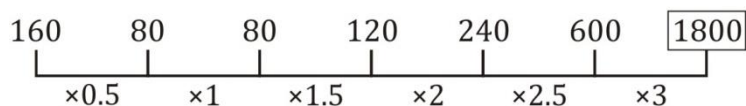
**S52. Ans.(b)**

**Sol.**



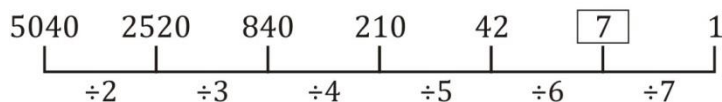
**S53. Ans.(d)**

**Sol.**



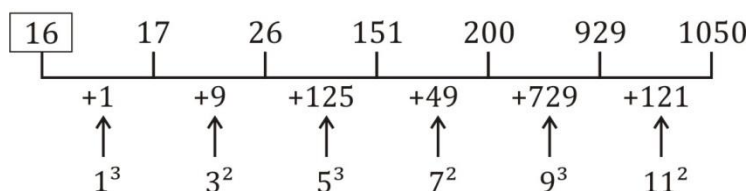
**S54. Ans.(a)**

**Sol.**



**S55. Ans.(c)**

**Sol.**



**Solution (56-60):**

Let total employees in company be  $100x$

ATQ,

$$\frac{25}{100} \times 100x = 90$$

$$\Rightarrow \text{Total employees in company} = 100x = 360$$

$$\text{Employees working in HR department} = \frac{2}{9} \times 360 = 80$$

$$\text{Employees working in Sales department} = \frac{125}{100} \times 80 = 100$$

$$\text{Remaining employees} = 360 - 90 - 80 - 100 = 90$$

$$\text{Employees working in Security department} = \frac{4}{9} \times 90 = 40$$

$$\text{Employees working in Housing department} = \frac{5}{9} \times 90 = 50$$

Sales	Finance	HR	Security	Housing	Total
100	90	80	40	50	360

**S56. Ans.(d)**

**Sol.** Required %

$$= \frac{80 - 40}{40} \times 100 = \frac{40}{40} \times 100 = 100\%$$

**S57. Ans.(c)**

**Sol.** Required average

$$= \frac{100 + 90 + 50}{3} = \frac{240}{3} = 80$$

**S58. Ans.(a)**

**Sol.** Required difference =  $50 - 40 = 10$

**S59. Ans.(e)**

**Sol.** Total number of male employees working in Security department

$$= \frac{60}{100} \times 40 = 24$$

**S60. Ans.(b)**

**Sol.** Total number of female employees working in HR department

$$= \frac{3}{5} \times 80 = 48$$

**S61. Ans.(b)**

**Sol.**  $?^2 = 4^2 + 8^2 - 31$

$$?^2 = 16 + 64 - 31 = 80 - 31 = 49$$

$$? = 7$$

**S62. Ans.(d)**

**Sol.**  $13 \times 6 + ? \times 4 = 18 \times 7$

$$78 + ? \times 4 = 126$$

$$? = \frac{126 - 78}{4} = 12$$

**S63. Ans.(a)**

**Sol.** 40% of ? = 25% of 320 + 75% of 160

$$\frac{2}{5} \times ? = \frac{25}{100} \times 320 + \frac{75}{100} \times 160$$

$$\frac{2}{5} \times ? = 80 + 120$$

$$? = 200 \times \frac{5}{2} = 500$$

**S64. Ans.(c)**

**Sol.**  $11^2 + 6^2 = ? + 37$

$$121 + 36 - 37 = ?$$

$$? = 120$$

**S65. Ans.(e)**

**Sol.**

$$\frac{360}{?} = 12 \times 6 - 3^3$$

$$\frac{360}{?} = 72 - 27$$

$$? = \frac{360}{45} = 8$$

**S66. Ans.(d)**

**Sol.**  $\sqrt{225} + \sqrt{441} = ?^2$

$$15 + 21 = ?^2$$

$$?^2 = 36$$

$$? = 6$$

**S67. Ans.(a)**

**Sol.**  $16 \times 8 - ? = 2^6$

$$128 - 64 = ?$$

$$? = 64$$

**S68. Ans.(b)**

**Sol.**  $16 \times 54 \div 36 + 6 = ?$

$$? = 16 \times \frac{54}{36} + 6 = 30$$

**S69. Ans.(e)**

**Sol.**  $? = \sqrt{6 \times 3 \times 5 + 50\% \text{ of } 620}$

$$? = \sqrt{90 + 310} = \sqrt{400} = 20$$

**S70. Ans.(c)**

**Sol.**

$$6^2 = \frac{18 \times 8 - ? \times 2}{3}$$

$$36 \times 3 = 144 - ? \times 2$$

$$? \times 2 = 144 - 108$$

$$? = \frac{36}{2} = 18$$

**S71. Ans.(c)**

**Sol.** Marks scored by Sandy in English and Maths together =  $60 + 60 = 120$

Marks scored by Aditya and Neeraj in English together =  $75 + 85 = 160$

$$\text{Required \%} = \frac{120}{160} \times 100 = 75\%$$

**S72. Ans.(a)**

**Sol.** Required ratio

$$= \frac{60 + 75 + 55 + 60}{80 + 60 + 95 + 65} = \frac{250}{300} = \frac{5}{6}$$

**S73. Ans.(d)**

**Sol.** Total marks scored by Paul =  $65 + 60 + 80 + 65 = 270$

Total marks scored by Neeraj =  $85 + 55 + 95 + 85 = 320$

Required difference =  $320 - 270 = 50$

**S74. Ans.(e)**

**Sol.** Required average

$$= \frac{75 + 75 + 60}{3} = 70$$

**S75. Ans.(b)**

**Sol.** Required %

$$= \frac{60 + 60 + 65 + 60}{400} \times 100 = 61.25\%$$

**S76. Ans.(b)**

**Sol.** MP of article =  $\frac{1020}{80} \times 100 = \text{Rs. } 1275$

Selling price =  $1275 - 199 = \text{Rs. } 1076$

**S77. Ans.(c)**

**Sol.** Sum of present age of A, B and C

$$= 98 - 4 \times 3$$

$$= 98 - 12$$

$$= 86 \text{ yr.}$$

Present age of C =  $86 - (32 + 23) = 31 \text{ yr.}$

Age of C four years hence =  $31 + 4 = 35 \text{ yr.}$

**S78. Ans.(b)**

**Sol.** Profit share ratio of

A		B
$\frac{12000 \times x}{x}$	:	$\frac{16000 \times 9}{12}$

ATQ,

$$\frac{x}{12} = \frac{9000}{12000}$$

$$\Rightarrow x = 9 \text{ months.}$$

**S79. Ans.(e)**

**Sol.** Let, total quantity =  $100\ell$

Quantity of milk =  $60 \ell$

And quantity of water =  $40 \ell$

ATQ,

$$\frac{40}{100} = \frac{60}{100 + x}$$

$$2(100 + x) = 5 \times 60$$

$$200 + 2x = 300$$

$$2x = 100$$

$$x = 50 \text{ l}$$

$$\text{Water added in \%} = \frac{50}{100} \times 100 = 50\%$$

**S80. Ans.(e)**

**Sol.** Let the sum be Rs. P.

$$P \left[ \frac{11}{10} \times \frac{11}{10} - 1 \right] - \frac{P \times 2 \times 8}{100} = 225$$

$$\Rightarrow P \left[ \frac{21}{100} \right] - \frac{16P}{100} = 225$$

$$\Rightarrow P = \frac{225 \times 100}{5}$$

$$\Rightarrow P = \text{Rs. } 4500$$

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