

SBI PO Prelims Previous Year Question Paper 2018

Quantitative Aptitude (Questions & Solutions)

Directions Q. (1 - 5): There are three persons A, B and C who each invested in two different scheme S1 and S2. A in invested Rs. 80,000 for 2 years in scheme S1 and 30,000 for 4 years in scheme S2. B invested Rs 30,000 for a year in S1 and he did not invest in scheme B. B also obtained a profit of 10,000 by selling his car. C invested Rs 50000 for 5 years in scheme S1 and 10000 for 3 years in scheme S2. The total profit obtained from scheme S1 is 2 lakh and scheme S2 is 90,000.

Q. (1) Profit obtained by A from scheme S1 is what per cent of profit obtained by C from scheme S2?

1. 326 %
2. 317%
3. 326%
4. 335%
5. 355%

Answer: 5

Solution:

Ratio of profit of A, B and C in scheme S1 = $80000 \times 2 : 30000 \times 3 : 50000 \times 5$
= 16: 9: 25

In scheme S1, profit of A = $(16/50) \times 200000 = 64000$

Profit of B = $(9/50) \times 200000 = 36000$

Profit of C = $(25/50) \times 200000 = 100000$

The ratio of profit of A and C in scheme S2 = $30000 \times 4 : 10000 \times 3$
= 12: 3

\therefore Profit of A in scheme S2 = $12/15 \times 90000 = 72000$

Profit of B in scheme S2 = $3/15 \times 90000 = 18000$

Hence, required percentage = $(64000/18000) \times 100 = 355 \%$

Q. (2) If A had invested his sum at Simple interest for 3 years at the rate of R% p.a. instead in scheme S1 and B has invested his sum at compound interest at (R + 5%) p.a. for 1 year and the difference in interest obtained is 30,000 then find the value of R%.

1. 15%
2. 7%
3. 5%
4. 8%
5. 2%

Answer: 1

Solution: $[(80000 \times R \times 3)/100] - [3000 \times \{(R + 5)/100\}] = 30000$

$\Rightarrow R = 15\%$

Q. (3) If the sum of investment of A in both schemes and total profit obtained by A from both scheme is invested at compound interest at the rate of 20% p.a. then find the total compound interest obtained in 2 years.

1. 106240
2. 108240
3. 102208
4. 123480
5. 106500

Answer:

Solution: Total investment of A = 110000

\therefore Total profit of A = 136000

Rate of interest = 44%

Hence, total compound interest obtained = $(44/100) \times (136000 + 110000) = 108240$

Q. (4) What is the average of profit attained by A from scheme S1 and profit of C obtained from scheme S2?

1. 43000
2. 41000
3. 54000

4. 56000
5. 47000

Answer: 2

Solution: Required average = $(64000 + 18000)/2 = 41000$

Q. (5) What is the ratio of total profit obtained by B and profit obtained by C from scheme S1?

1. 23: 47
2. 54: 47
3. 36: 43
4. 23: 50
5. 27: 50

Answer: 4

Solution: Required ratio = $(36000 + 10000): 100000$
 $= 23: 50$

Q. (6) What is the probability of forming a word from the letters of word "IMPEACH" such that all vowels come together?

1. $1/7$
2. $4/7$
3. $1/7$
4. $4/35$
5. $13/35$

Answer: 1

Solution:

Total numbers of ways = $7!$

\therefore Favourable numbers of ways = $5! \times 3!$

Hence, the probability of forming a word from the letters of word "IMPEACH" such that all vowels come together = $(5! \times 3!) / 7!$

$= (5! \times 3!) / 7 \times 6 \times 5!$

$$= (3 \times 2) / (7 \times 6)$$
$$= 1/7$$

Q. (7) Sum of A's and B's age 6 years ago is 88. A's age 18 years ago is equal to B's age 6 years ago. Find the age of A two year hence?

1. 51 years
2. 62 years
3. 22 years
4. 58 years
5. 18 years

Answer: 4

Solution:

Let present age of A be x years & present age of B be y years.

According to the question,

$$x + y = 88 + 12$$

$$\Rightarrow x + y = 100 \text{ _____ (i)}$$

$$x - 18 = y - 6$$

$$\Rightarrow x - y = 12 \text{ _____ (ii)}$$

Solving (i) & (ii) we get, $x = 56$

Hence, age of A after 2 years = 58 years

Q. (8) In a box there are 6 blue balls, X red balls & 10 green balls. Probability of choosing one red ball from the given box is $1/3$, then find the sum of red and blue balls in the box?

1. 14
2. 11
3. 10
4. 17
5. 15

Answer: 1

Solution: According to the question,

$$X / (X + 16) = \frac{1}{3}$$

$$\Rightarrow 3X = X + 16$$

$$\Rightarrow X = 8$$

$$\therefore \text{Sum of red \& blue balls} = 8 + 6 = 14$$

Q. (9) Train A of length 120 m can cross a platform of length 240m in 18 seconds. The ratio of the speed of train A and train B is 4: 5. The find the length of train B if train B can cross a pole in 12 seconds.

1. 300m
2. 330m
3. 310m
4. 370m
5. 340m

Answer: 1

Solution: Let the speed of train A be S

$$\therefore S \times 18 = 360$$

$$\Rightarrow S = 20 \text{ m/s}$$

Given, A: B = 4: 5

$$\therefore \text{Speed of B} = 25\text{m/s}$$

$$\text{Hence, length of train B} = 25 \times 12 = 300\text{m}$$

Direction Q. (10 - 14): Find the value of (?) in the following questions:

Q. (10) (?)% of 179.99 = (24.02 24.02) + (17.98 17.98) + 60.01% of 659.98

1. 20
2. 50
3. 70
4. 30
5. 15

Answer: 1

Solution: $(?)\%$ of 179.99 = (24.02 24.02) + (17.98 17.98) + 60.01% of 659.98

$$\Rightarrow (?)\% \text{ of } 180 = (24.02 \times 2) + (17.98 \times 2) + 60\% \text{ of } 660$$

$$\Rightarrow (?)/100 \times 180 = 576 + 324 + 396$$

$$\Rightarrow (?)/100 \times 180 = 1296$$

$$\Rightarrow (?) = (36/180) \times 100$$

$$\Rightarrow (?) = 20$$

Q. (11) 339.99 / (?) = 143.99 + 64.01

1. 19
2. 17
3. 12
4. 23
5. 40

Answer: 2

Solution: $339.99 / (?) = 143.99 + 64.01$

$$\Rightarrow 340 / (?) = 144 + 64$$

$$\Rightarrow 340 / (?) = 208$$

$$\Rightarrow (?) = 340/208$$

$$\Rightarrow (?) = 17$$

Q. (12) 34.02% of 550.09 (?) = 297.07 728.95

1. 147
2. 22
3. 17
4. 37
5. 57

Answer: 3

Solution: $34.02\% \text{ of } 550.09 (?) = 297.07 + 728.95$

$$\Rightarrow (34/100 \times 550) (?) = 297\ 729$$

$$\Rightarrow (?) = (187/297) \times 27$$

$$\Rightarrow (?) = 17$$

Q. (13) $2^{(?)}$ = $(32.01 / 128.01) \times (1023.99 / 7.99)$

1. 5

2. 1

3. 2

4. 3

5. 4

Answer: 1

Solution: $2^{(?)}$ = $(32.01 / 128.01) \times (1023.99 / 7.99)$

$$\Rightarrow 2^{(?)}$$
 = $(32 / 128) \times (1024 / 8)$

$$\Rightarrow 2^{(?)}$$
 = $32 = 2^5$

$$\Rightarrow (?) = 5$$

Q. (14) $[(?) \div 9.97] \times 12.8 = 20.12\%$ of 1319.97

1. 210

2. 220

3. 270

4. 290

5. 205

Answer: 2

Solution: $[(?) \div 9.97] \times 12.8 = 20.12\%$ of 1319.97

$$\Rightarrow (? \div 10) \times 12 \approx 20/100 \times 1320$$

$$\Rightarrow ? \approx 264/12 \times 10 \approx 220$$

Q. (15) Sum of the volume of a cylinder (S) and the volume of a cone (C) is $2190 \pi \text{cm}^2$ & height of both cylinder and cone is same i.e, 10 cm. If the radius of the cone is 15 cm then, find the ratio of radius of S to radius of C?

1. 4:5
2. 3:7
3. 3:5
4. 7:5
5. 1:5

Answer: 1

Solution: Volume of cylinder (s) = $\pi r^2 h$

Volume of cone (c) = $\frac{1}{3} \pi R^2 H$

According to the question,

$$\pi r^2 h + \frac{1}{3} \pi R^2 H = 2190 \pi$$

$$\Rightarrow \pi \times 10 [r^2 + \frac{1}{3} \times 15 \times 15] = 2190 \pi$$

$$\Rightarrow r = 12$$

$$\therefore r/R = 12/15 = 4 : 5$$

Q. (16) If the speed of a boat is 500% more than the speed of a current.

Quantity I: If a boat can travel a distance of 63 km 3 hr, in downstream then 'X' is the speed of the boat in upstream. (km/hr)

Quantity II: 15 km/hr

1. Quantity I > Quantity II
2. Quantity I < Quantity II
3. Quantity I \geq Quantity II
4. Quantity I \leq Quantity II
5. Quantity I = Quantity II or No relation

Answer: 5 (Quantity I = Quantity II)

Solution: Let the speed of current = x and the speed of boat = x + 5x

Hence, downstream speed = 7x

Therefore, $63/7x = 3$

$$\Rightarrow x = 3$$

$$\begin{aligned}\text{Upstream speed} &= 6x - x = 5x \\ &= 15 \text{ km/hr}\end{aligned}$$

Thus, Quantity I = Quantity II

Q. (17) Sum of 8 consecutive even number is S1.

Quantity I: Sum of second number and eight number in S1

Quantity II: Sum of third number and sixth number in S1

1. Quantity I > Quantity II
2. Quantity I < Quantity II
3. Quantity I \geq Quantity II
4. Quantity I \leq Quantity II
5. Quantity I = Quantity II or No relation

Answer: 1 (Quantity I > Quantity II)

Solution: Let the numbers be $x, x + 2, x + 4, x + 6, x + 8, x + 10, x + 12$ and $x + 14$

$$\text{Quantity I} \rightarrow x + 2 + x + 14 = 2x + 16$$

$$\text{Quantity II} \rightarrow x + 4 + x + 10 = 2x + 14$$

Hence, Quantity I > Quantity II

Q. (18)

Quantity I: $X^2 + X - 6 = 0$

Quantity II: $Y^2 + 7Y + 12 = 0$

1. Quantity I > Quantity II
2. Quantity I < Quantity II
3. Quantity I \geq Quantity II
4. Quantity I \leq Quantity II
5. Quantity I = Quantity II or No relation

Answer: 3 (Quantity I \geq Quantity II)

Solution:

$$\text{Quantity I} \Rightarrow X^2 + X - 6 = 0$$

$$\begin{aligned}\Rightarrow X^2 + 3X - 2X - 6 &= 0 \\ \Rightarrow X(X + 3) - 2(X - 3) &= 0 \\ \Rightarrow (X + 3)(X - 2) &= 0 \\ \Rightarrow X &= -3, 2\end{aligned}$$

$$\begin{aligned}\text{Quantity II} \Rightarrow Y^2 + 7Y + 12 &= 0 \\ \Rightarrow Y^2 + 4Y + 3Y + 12 &= 0 \\ \Rightarrow Y(Y + 4) + 3(Y + 4) &= 0 \\ \Rightarrow (Y + 3)(Y + 4) &= 0 \\ \Rightarrow Y &= -3, -4\end{aligned}$$

Hence, Quantity I \geq Quantity II

Q. (19) An article is sold at Rs.1500 after allowing a discount of 12.5% on Marked price.

Quantity I: Rs. 550

Quantity II: Marked price of article.

1. Quantity I $>$ Quantity II
2. Quantity I $<$ Quantity II
3. Quantity I \geq Quantity II
4. Quantity I \leq Quantity II
5. Quantity I = Quantity II or No relation

Answer: 2 (Quantity I $<$ Quantity II)

Solution: SP = 1500

Let, MP = x

Quantity I = 550

Quantity II: $x \times \frac{7}{8} = 1500$

$x = (1500 \times 8)/7 = 12000/7$

Quantity II $>$ Quantity I

Q. (20) A's efficiency is 25% more than B.

Quantity I: A can do $\frac{5}{6}$ th of total work in 'X' days.

Quantity II: B can do $\frac{4}{5}$ th of total work in 'Y' days.

1. Quantity I > Quantity II
2. Quantity I < Quantity II
3. Quantity I \geq Quantity II
4. Quantity I \leq Quantity II
5. Quantity I = Quantity II or No relation

Answer:

Solution: A's efficiency = 5

B's efficiency = 4

Let total work = 60

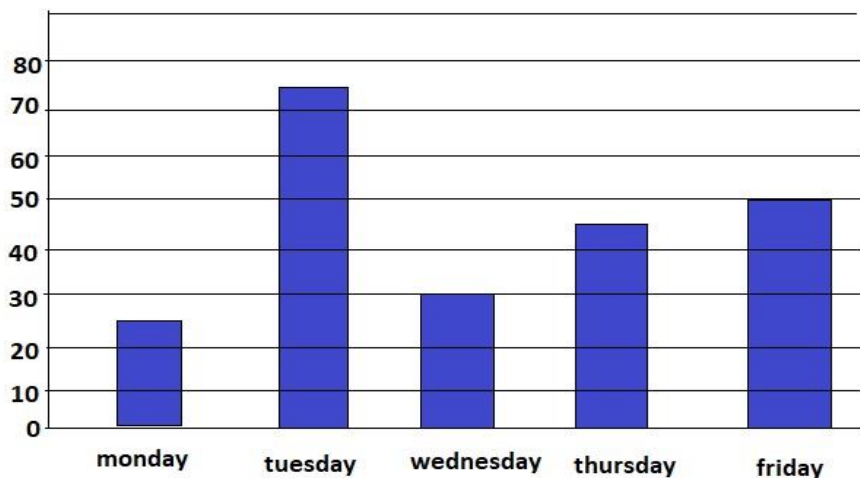
Quantity I: A can do $\frac{5}{6}$ of work in $\rightarrow \frac{60}{\frac{5}{6}} = 72$ days

Quantity II: B can do $\frac{4}{5}$ of work in $\rightarrow \frac{60}{\frac{4}{5}} = 75$ days

Hence, Quantity II > Quantity I

Directions Q. (21 - 25): Bar graph given below shows pens sold by a retailer on five different days. Study the data carefully and answer the following questions.

Pen sold on different days



Q. (21) Out of total pens sold on Tuesday ratio between total defective pens sold to total pens sold is 7:

15. Find the total number of non - defective pens sold on Tuesday by retailer?

1. 40
2. 15

3. 60
4. 45
5. 90

Answer: 1

Solution: Total number of non-defective pens sold on Tuesday = $(75/15) \times 8 = 40$

Q. (22) Total number of pens sold on Saturday is 40% more than the total number of pens sold on Wednesday. Find the total number of pens sold on Friday and Saturday together?

1. 92
2. 122
3. 172
4. 125
5. 105

Answer: 1

Solution: Total number of pens sold on Saturday = $30 \times 1.4 = 42$

Total number of pens sold on Friday and Saturday together = $50 + 42 = 92$

Q. (23) Find the difference between the total number of pens sold on Monday and Tuesday together to the total number of pens sold on Thursday and Friday together?

1. 25
2. 40
3. 5
4. 22
5. 10

Answer: 3

Solution: Required difference = $(25 + 75) - (45 + 50) = 5$

Q. (24) Total number of pens sold on Tuesday is 25% more than total number of pens sold on Sunday. Find the total number of pens sold on Sunday.

1. 72
2. 60
3. 94
4. 43
5. 75

Answer: 2

Solution: Total number of pens sold on Sunday = $(75/125) \times 100 = 60$

Q. (25) Out of the total pens sold on Thursday, 20% are blue ink pen. Out of the remaining 25% are red ink pen and remaining are black in pen. Find total no. of blue and black ink pen sold on Thursday.

1. 36
2. 46
3. 56
4. 66
5. 55

Answer: 1

Solution: Blue ink pen sold on Thursday = $45 \times (20/100) = 9$

Red ink pen sold on Thursday = $(45 - 9) \times (25/100) = 9$

Black ink pen sold on Thursday = $(45 - 9) \times (75/100) = 27$

Total number of blue and black ink pen sold on Thursday = $9 + 27 = 36$

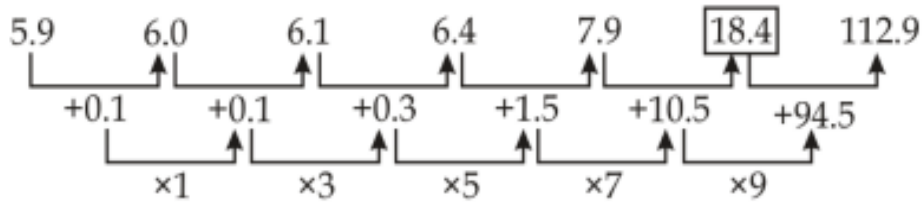
Directions Q. (26): Find out the wrong no. in the following series.

5.9, 6.0, 6.1, 6.4, 7.9, 18.5, 112.9

1. 18.5
2. 6.1
3. 6.0
4. 112.9
5. 7.9

Answer: 1

Solution:



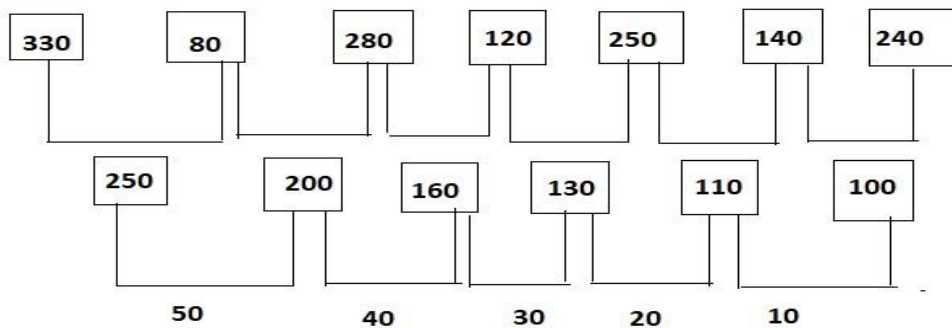
Directions Q. (27): Find out the wrong no. in the following series.

330, 80, 280, 120, 250, 130, 240

1. 330
2. 130
3. 240
4. 120
5. 250

Answer: 2

Solution:



Directions Q. (28): Find out the wrong no. in the following series.

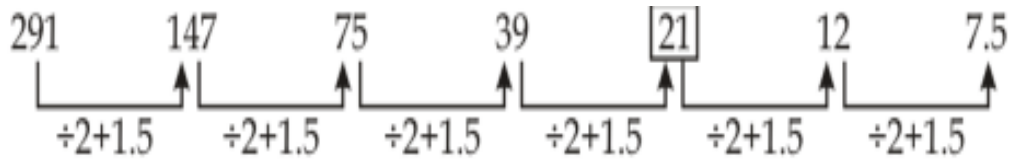
291, 147, 75, 39, 22, 12, 7.5

1. 39
2. 147
3. 22
4. 7.5

5. 291

Answer: 3

Solution:



Directions Q. (29): Find out the wrong no. in the following series?

1, 3, 9, 31, 129, 652

1. 1
2. 3
3. 652
4. 31
5. 129

Answer: 3

Solution: The given series is of the following pattern:

- $(1 \times 1) + 2 = 3$
- $(3 \times 2) + 3 = 9$
- $(9 \times 3) + 4 = 31$
- $(31 \times 4) + 5 = 129$

Hence, $(129 \times 5) + 6 = 651$

Directions Q. (30): Find out the wrong no. in the following series?

26, 27, 34, 58, 106, 186, 306

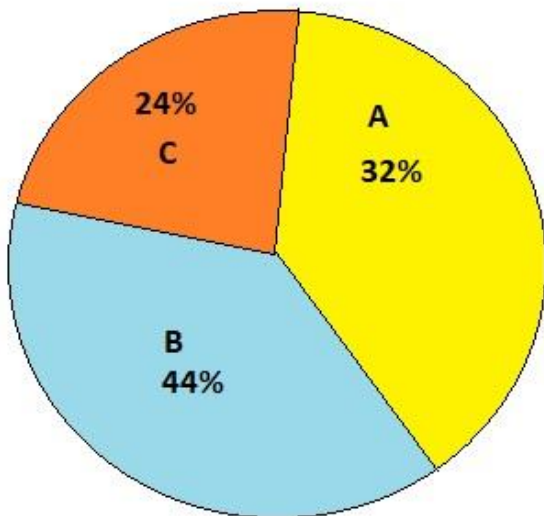
1. 27
2. 34
3. 186
4. 106
5. 306

Answer: 1

Solution: The pattern of the given series is:

- $34 - 26 = 8 = 3^2 - 1$
- $58 - 34 = 24 = 5^2 - 1$
- $106 - 58 = 48 = 7^2 - 1$
- $186 - 106 = 80 = 9^2 - 1$
- $306 - 186 = 120 = 11^2 - 1$

Directions Q. (31 - 35): Pie chart given below shows the total number of workers in three different companies. The table given below shows the ratio between officers and workers working in these companies. Study the data carefully and answer the following questions.



Company	Officers: Workers
A	1:16
B	1:18
C	1:12

Note: total employees = officers + workers

Q. (31) Find the difference between the total number of workers in company 'A' and total number of workers in company 'B' and 'C' together?

1. 324
2. 423
3. 523
4. 624
5. 124

Answer: 1

Solution: Required difference = $(900/100) \times [(44 + 24) - 32] = 9 \times 36 = 324$

Q. (32) Total number of employees in company 'B' is how much more than total number of employees in company 'C'.

1. 184
2. 176
3. 225
4. 265
5. 125

Answer: 1

Solution: Total number of employees in company B = $900 \times (44/1000) \times (19/18) = 418$

Total number of employees in company C = $900 \times (24/100) \times (13/12) = 234$

Required difference = $418 - 234 = 184$

Q. (33) Total number of officers in company 'A' is how much less than total number of officers in company 'B'?

1. 1
2. 7
3. 9
4. 4
5. 8

Answer:

Solution: Total number of officers in Company 'A' = $900 \times (32/100) \times (1/16) = 18$

Total number of officers in Company 'B' = $900 \times (44/100) \times (1/18) = 22$

Required difference = $22 - 18 = 4$

Q. (34) Find the ratio between the total number of workers in company A and C together to total number of officers in company A and C together?

1. 17: 1
2. 12: 7
3. 14: 1
4. 18: 1
5. 22: 3

Answer: 3

Solution:

Total number of workers in company A and C together = $[900 \times (32/100)] + [900 \times (24/100)]$
 $= 288 + 216 = 504$

Total number of officers in company A and C together
 $= [900 \times (32/100) \times (1/16)] + [900 \times (24/100) \times (1/12)]$
 $= 18 + 18 = 36$

Required Ratio = $504: 36 = 14: 1$

Q. (35) Total number of officers and workers in company D is 50% and 25% more than total number of officers and workers in company 'C' respectively. Find the total number of employees in company 'D'?

1. 297
2. 279
3. 972
4. 927
5. 227

Answer: 1

Solution: Total number of officers in company C = $900 \times (24/100) \times (1/12) = 18$

Total number of workers in company C = $900 \times (24/100) = 216$

Total number of employees in company D = $(216 \times 1.25) + (18 \times 1.5) = 270 + 27 = 297$

