SBI Clerk 2020
Quant Aptitude
Previous Year Ques. Paper

Direction: What should come in place of the question mark '?' in the following number series?

1. 76, 80, 107, 123, ?, 284
A. 248
B. 256
C. 265
D. 272
E. 260

2. 400, 394, 378, 352, 316, ?
A. 270
B. 284
C. 306
D. 292
E. 252

3. 18, 31, 42, 49, 54, ?
A. 56
B. 59
C. 57
D. 58
E. 60

Direction: (4-13) What value will come in place of the question mark (?) in the following question?

4.
$$\frac{2400 + 75\% \text{ of } ?}{3} = 1700$$
A. 3600
B. 2100
C. 4800
D. 3200
E. 3800

5. $(12 \times 5 \div 4) \times 8 = ?$
A. 125   B. 120
C. 118   D. 122
E. 130

6. $984 \div 4 + ? \div 5 = 1578$
A. 6660
B. 6545
C. 6735
D. 6338
E. 6680

Direction: Given below are two quantities named I and II. Based on the given information, you have to determine the relation between the two quantities. You should use the given data and your knowledge of Mathematics to choose among the possible answers.

7. I. $5x^2 + 3x - 2 = 0$
II. $4y^2 - 7y + 3 = 0$
A. x < y
B. x > y
C. x ≥ y
D. x ≤ y
E. x = y or No relation

8. I. $x^2 - 13x + 40 = 0$
II. $y^2 - 6y + 5 = 0$
A. Quantity I ≥ Quantity II
B. Quantity I < Quantity II
C. Quantity I > Quantity II
D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

9. I. $8x^2 + 22x + 15 = 0$
II. $15y^2 + 11y + 2 = 0$
A. Quantity I < Quantity II
B. Quantity I > Quantity II
C. Quantity I ≥ Quantity II
D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II or No relation

10.A alone can complete A piece of work in 25 days. B is 40% less efficient than A, then in how many days A and B working together can complete 80% of that work?
A. 10 days
B. 20 days
C. 15 days
D. 12.5 days
E. None of these

11.Average of 11 numbers is 71 and the average of first 5 numbers is 73. If average of last 4 numbers is 84 and the ratio of 6th and 7th number is 9 : 7, then find the 6th number.
A. 27
B. 36
C. 45
D. 54
E. None of these

12.Ashu invested Rs. A in a scheme P and Rs. (A + 400) in another scheme Q. He got 10% per annum and 12% per annum simple interest on the schemes P and Q respectively. If after 2 years, he got total of Rs. 976 as interest from both the schemes, then what is the value of A?
A. Rs. 1200
B. Rs. 1600
C. Rs. 2000
D. Rs. 2100
E. None of these

Direction: (13-17) Study the following line graph and answer the following questions:

In the line graph, marks obtained by two students A and B in three subjects Maths, English and Science is given.
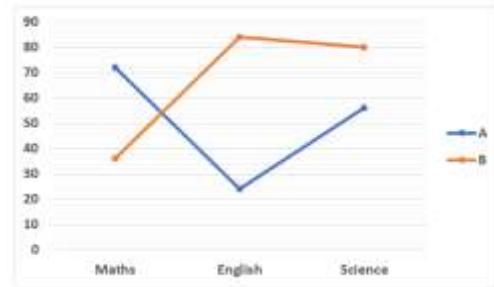
13. If a student C has scored 98 marks in Science, then by what percent C has scored more than B in Science?
A. 20%
B. 18%
C. 45%
D. 25%
E. None of these

14.What is the average of the marks scored by A and B in English?
A. 27
B. 36
C. 50
D. 54
E. None of these

15.If the maximum marks in each of the subjects Maths, English and Science is 100, then the aggregate percentage marks obtained by B in the given three subjects?
A. 60%
B. $66\frac{2}{3}$%
C. 75%
D. 62.5%
E. None of these

ANSWERS

1. Ans. A.

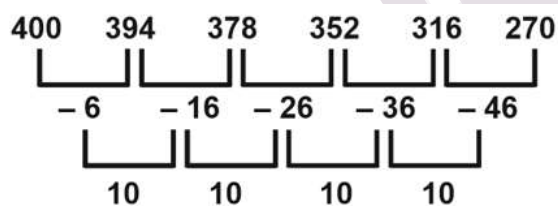The pattern of the series is:

$76 + 2^2 = 80$

$80 + 3^3 = 107$

$107 + 4^2 = 123$

$123 + 5^3 = 248$

$248 + 6^2 = 286$

2. Ans. A.

The pattern of the series is:

400	394	378	352	316	270
− 6	− 16	− 26	− 36	− 46
10	10	10	10

3. Ans. C.

The pattern of the series is:

$18 + 13 = 31$

$31 + 11 = 42$

$42 + 7 = 49$

$49 + 5 = 54$

$54 + 3 = 57$

here, 3,5,7,11,13 are prime numbers.

4. Ans. A.

$$\frac{2400 + 75\% \text{ of } ?}{3} = 1700$$

$$\Rightarrow 2400 + \frac{75}{100} \times ? = 5100$$

$$\Rightarrow \frac{3}{4} \times ? = 5100 - 2400$$

$$\Rightarrow \frac{3}{4} \times ? = 2700$$

$$\Rightarrow ? = \frac{2700 \times 4}{3} = 3600$$

$$\Rightarrow ? = 3600$$

5. Ans. B.

$? = (12 \times 5 \div 4) \times 8$

$$? = \left(12 \times \frac{5}{4}\right) \times 8$$

$? = 15 \times 8$

$? = 120$

6. Ans. A.

$984 \div 4 + ? \div 5 = 1578$

$$\Rightarrow \frac{984}{4} + \frac{?}{5} = 1578$$

$$= 246 + \frac{?}{5} = 1578$$

$$= \frac{?}{5} = 1332$$

? = 6660

7. Ans. A.

(i) $5x^2 + 3x - 2 = 0$

$5x^2 + (5 - 2)x - 2 = 0$

$5x^2 + 5x - 2x - 2 = 0$

$5x(x + 1) - 2(x + 1) = 0$

$(5x - 2)(x + 1) = 0$

$x = 2/5, -1$

(ii) $4y^2 - 7y + 3 = 0$

$4y^2 - (4 + 3)y + 3 = 0$

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

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

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

$y = 3/4, 1$

8. Ans. A.

(i) $x^2 - 13x + 40 = 0$

$x^2 - (8 + 5)x + 40 = 0$

$x^2 - 8x - 5x + 40 = 0$

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

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

$x = 5, 8$

(ii) $y^2 - 6y + 5 = 0$

$y^2 - (5 + 1)y + 5 = 0$

$y^2 - 5y - y + 5 = 0$

$y(y - 5) - 1(y - 5) = 0$

$(y - 5)(y - 1) = 0$

$y = 5, 1$

9. Ans. A.

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(i) $8x^2 + 22x + 15 = 0$

$8x^2 + (12 + 10)x + 15 = 0$

$8x^2 + 12x + 10x + 15 = 0$

$4x(2x + 3) + 5(2x + 3) = 0$

$(4x + 5)(2x + 3) = 0$

$x = -5/4, -3/2$

(ii) $15y^2 + 11y + 2 = 0$

$15y^2 + (6 + 5)y + 2 = 0$

$15y^2 + 6y + 5y + 2 = 0$

$3y(5y + 2) + 1(5y + 2) = 0$

$(5y + 2)(3y + 1) = 0$

$y = -2/5, -1/3$

10. Ans. D.

Let efficiency of A = 10, then efficiency of B = 10 − 40% of 10 = 10 − 4 = 6

Total work = Efficiency of A × No. of days = 10 × 25 = 250

Required number of days = $\dfrac{80\% \text{ of total work}}{\text{Sum of efficiencies of A and B}} = \dfrac{80\% \ 250}{10 + 6} = \dfrac{200}{16}$ = 12.5 days

11. Ans. C.

Let the 6th number = 9x, then 7th number = 7x

According to question

$11 \times 71 = 5 \times 73 + 9x + 7x + 4 \times 84$

$\Rightarrow 781 = 365 + 16x + 336$

$\Rightarrow 16x = 781 - (365 + 336) = 80$

$\Rightarrow x = \dfrac{80}{16} = 5$

Hence, the 6th number = 9x = 9 × 5 = 45

12. Ans. C.

According to question,

For scheme P:

Interest for 2 years = $\dfrac{A \times 10 \times 2}{100}$ = 0.2A   .....(i)

For scheme Q:

Interest for 2 years = $\dfrac{(A + 400) \times 12 \times 2}{100}$ = 0.24A + 96   .....(ii)

Now, (i) + (ii) = 976

$\Rightarrow$ So, 0.2A + 0.24A + 96 = 976
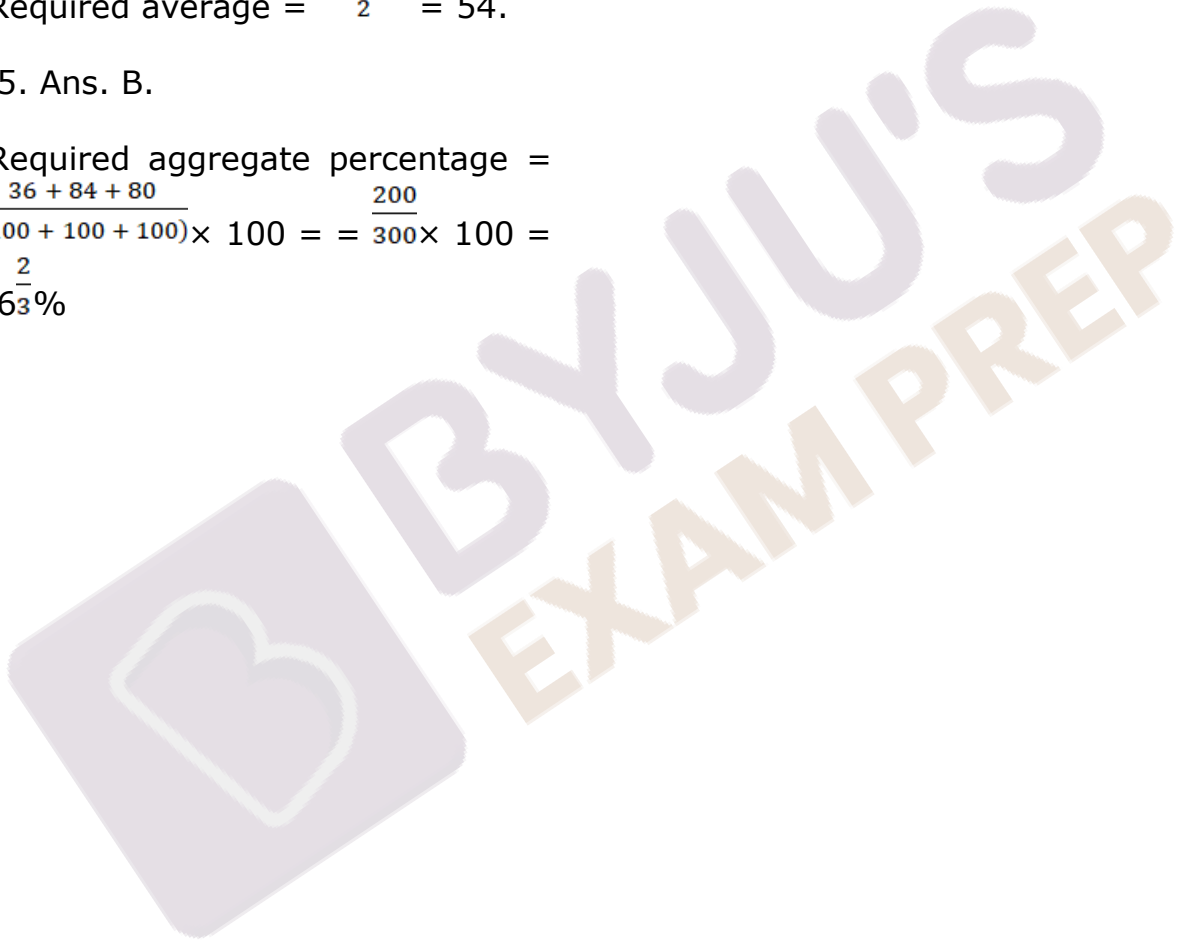
$\Rightarrow$ 0.44A = 880

$\Rightarrow$ A = 2000

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13. Ans. E.

Required percentage = $\dfrac{98 - 80}{80} \times 100$
= 22.5%.

14. Ans. D.

Required average = $\dfrac{84 + 24}{2}$ = 54.

15. Ans. B.

Required aggregate percentage =
$\dfrac{36 + 84 + 80}{(100 + 100 + 100)} \times 100 = = \dfrac{200}{300} \times 100 =$
$66\frac{2}{3}$%