

## RBI Assistant Previous Year Question Paper 2017 Quantitative Aptitude (Questions & Solutions)

**Q. (1)** Find the missing number in the given series.

7, 21, 5, 23, 3, (?)

1. 25
2. 28
3. 27
4. 33
5. 32

**Answer:** 1

**Solution:** Given series is based on the following pattern:

- $21 - 7 = 14 = (10 + 4)$
- $21 - 5 = 16 = (10 + 6)$
- $23 - 5 = 18 = (10 + 8)$
- $23 - 3 = 20 = (10 + 10)$

Therefore,  $3 + (10 + 12) = 25$

Hence, the required number = 25

**Q. (2)** Find the missing number in the given series.

15, 22, 32, 46, 65, (?)

1. 80
2. 82
3. 85
4. 90
5. 94

**Answer:** 4

**Solution:** Given series is based on the following pattern:

- $22 - 15 = 7$
- $32 - 22 = 10 = (7 + 3)$
- $46 - 32 = 14 = (10 + 4)$
- $65 - 46 = 19 = (14 + 5)$

Therefore,  $65 + (19 + 6) = 90$

Hence, the required number = 90

**Q. (3)** Find the missing number in the given series.

**9, 10, 18, 27, 91, (?)**

1. 110
2. 112
3. 116
4. 121
5. 124

**Answer:** 3

**Solution:** Given series is based on the following pattern:

- $10 - 9 = 1 = 1^2$
- $18 - 10 = 8 = 2^3$
- $27 - 18 = 9 = 3^2$
- $91 - 27 = 64 = 4^3$

Therefore,  $91 + 5^2 = 91 + 25 = 116$

So, the required number in the series is 116.

**Q. (4)** Find the missing number in the given series.

**17, 23, 35, 59, (?), 203**

1. 117
2. 107
3. 127
4. 97
5. None of these

**Answer:** 2

**Solution:** Given series is based on the following pattern:

- $23 - 17 = 6$
- $35 - 23 = 12 = (6 \times 2)$
- $59 - 35 = 24 = (12 \times 2)$

Therefore,  $59 + (24 \times 2) = 107$

Hence, the required number = 107

**Q. (5)** Find the missing number in the given series.

6, 7, 16, 51, 208, (?)

1. 1010
2. 1045
3. 1035
4. 1038
5. None of these

**Answer:** 2

**Solution:** Given series is based on the following pattern:

- $(6 \times 1) + 1 = 7$
- $(7 \times 2) + 2 = 16$
- $(16 \times 3) + 3 = 51$
- $(51 \times 4) + 4 = 208$
- $(208 \times 5) + 5 = 1045$

So, the required number in the series is 1045.

**Direction Q. (6 - 10):** What value should come in place of the question mark (?) given in each of the following questions?

**Q. (6)**  $(4)_4 \div (16)_3 \times 256 = 4(? - 6)$

1. 3
2. 6
3. 9
4. 5
5. None of these

**Answer:** 5

**Solution:**  $(4)_4 \div (16)_3 \times 256 = 4(? - 6)$

$$\Rightarrow (4)^4 \div (4^2)^3 \times (4)^4 = 4(? - 6)$$

$$\Rightarrow (4)^2 \times (4)^4 = 4(? - 6)$$

$$\Rightarrow (4)^2 \div 4 = ? - 6$$

$$\Rightarrow ? = 4 + 6 = 10$$

**Q. (7)** ? % of 650 + 844 = 1000

1. 54
2. 24
3. 34
4. 14
5. None of these

**Answer:** 2

**Solution:** ? % of 650 + 844 = 1000

$$\Rightarrow ? \% \text{ of } 650 = 156$$

$$\Rightarrow (? / 100) \times 650 = 156$$

$$\Rightarrow ? = 1560 / 65$$

$$\Rightarrow ? = 24$$

**Q. (8)**  $(?)^{9/4} / 324 = (?)^{1/4} / 9$

1. 27

2.  $(36)^2$

3. 6

4. 36

5. 6

**Answer:** 3

**Solution:**  $(?)^{9/4} / 324 = (?)^{1/4} / 9$

$$\Rightarrow (?)^{9/4} \div (?)^{1/4} = 324 / 9$$

$$\Rightarrow (?)^{9/4 - 1/4} = 36$$

$$\Rightarrow (?)^2 = 6^2$$

$$\Rightarrow ? = 6$$

**Q. (9)**  $2 \frac{1}{4} + 1 \frac{1}{3} - 4 \frac{1}{2} = (?)$

1.  $-1 \frac{1}{2}$

2.  $11/12$

3.  $-11/12$

4.  $1 \frac{1}{2}$

5. None of these

**Answer:** 5

**Solution:**  $2 \frac{1}{4} + 1 \frac{1}{3} - 4 \frac{1}{2} = (?)$

$$\Rightarrow (2)^{1/2 + 1/2} + \sqrt[3]{1} - (2^2)^{1/2} = (?)$$

$$\Rightarrow \sqrt{2} \times \sqrt{2} = ? + 1$$

$$\Rightarrow (\sqrt{2})^2 = ? + 1$$

$$\Rightarrow ? = 2 - 1 = 1$$

**Q. (10)**  $126 \div 14 \times (9)^2 - 53 = (?)^2$

1. 26

2. 26

3. -729

4. 27

5. 27

**Answer: 1**

**Solution:**  $126 \div 14 \times (9)^2 - 53 = (?)^2$

$$\Rightarrow 9 \times (9)^2 - 53 = (?)^2$$

$$\Rightarrow (9)^3 - 53 = (?)^2$$

$$\Rightarrow 729 - 53 = (?)^2$$

$$\Rightarrow (?) = \sqrt{676}$$

$$\Rightarrow ? = 26$$

**Q. (11)**  $724 - 336 + 499 = (?) + 112$

1. 765

2. 745

3. 551

4. 641

5. None of these

**Answer: 5**

**Solution:**  $724 - 336 + 499 = (?) + 112$

$$\Rightarrow 388 + 499 = (?) + 112$$

$$\Rightarrow 887 - 112 = (?)$$

$$\Rightarrow (?) = 775$$

**Q. (12)**  $869.4 + 604.8 = [489.5 - 398.5] \times (?)$

1. 18

2. 14.1

3. 14.5

4. 16.8

5. 16.2

**Answer: 5**

**Solution:**  $869.4 + 604.8 = [489.5 - 398.5] \times (?)$

$$\Rightarrow 1474.2 = 91 \times (?)$$

$$\Rightarrow (?) = 1474.2/91$$

$$\Rightarrow (?) = 16.2$$

**Q. (13)**  $\sqrt{(24)^4 + 224} = (?) \times (20)^2$

1. 20

2. 4

3. 2

4. 16

5. None of these

**Answer: 3**

**Solution:**  $\sqrt{(24)^2 + 224} = (?) \times (20)^2$   
 $\Rightarrow (24)^2 + 224 = (?) \times 400$   
 $\Rightarrow 576 + 224 = (?) \times 400$   
 $\Rightarrow (?) = 800/400$   
 $\Rightarrow (?) = 2$

**Q. (14)** A boat running downstream covers a distance of 20 km in 2 hours. While coming back, the boat takes 4 hours to cover the same distance. What is the speed of the boat in still water (in kmph)?

1. 6.5
2. 7.5
3. 8.5
4. 9
5. None of these

**Answer:** 2

**Solution:** Let, the speed of the boat in still water be  $x$  kmph and that of the stream be  $y$  kmph.

$$\therefore 20/(x + y) = 2$$

$$\Rightarrow x + y = 10 \text{ _____ (i)}$$

$$20/(x - y) = 4$$

$$\Rightarrow x - y = 5 \text{ _____ (ii)}$$

Adding (i) & (ii) we get,

$$2x = 15$$

$$\Rightarrow x = 7.5$$

Therefore, the speed of the boat in still water = 7.5 kmph

**Q. (15)** Prachi deposits an amount of ₹ 78,000 to obtain a simple interest at the rate of 13 p.c.p.a. for 3 years. What total amount will Prachi get at the end of 3 years?

1. ₹ 30,420
2. ₹ 1,05,420
3. ₹ 1,12,420
4. ₹ 1,08,420
5. None of these

**Answer:** 1

**Solution:** Principal (here the amount) = Simple Interest  $\times [100/(\text{rate} \times \text{time})]$

$$\Rightarrow 78,000 = \text{Simple Interest} \times [100/(13 \times 3)]$$

$$\Rightarrow \text{Simple Interest} = (78000 \times 13 \times 3)/100$$

$$\Rightarrow \text{Simple Interest} = \text{Rs. } 30,420$$

**Q. (16)** The simple interest accrued on an amount of ₹ 84000 at the end of 3 yr is ₹ 30240. What would be the compound interest accrued on the same amount at the same rate in the same period?

1. ₹ 30013.95
2. ₹ 31013.95

3. ₹ 32013.95
4. ₹ 33013.95
5. ₹ 34013.95

**Answer:** 5

**Solution:** Let, the rate of interest be  $y$ .

∴ Principal (here, the amount) = Simple Interest  $\times$  100/ Rate  $\times$  Time

$$\Rightarrow 84000 = 30240 \times 100/y \times 3$$

$$\Rightarrow y = 30240/(840 \times 3)$$

$$\Rightarrow y = 12$$

Hence, compound interest =  $P(1 + r/100)^n - P$

$$= [84000(1 + 12/100)^3] - 84000$$

$$= [84000 \times (112/100) \times (112/100) \times (112/100)] - 84000$$

$$= 118013.95 - 84000$$

$$= \text{Rs. } 34013.95$$

**Q. (17)** 6 women and 10 children together take six days to complete a piece of work. How many days will 10 children take to complete that piece of work if six women together can complete the same piece of work in 10 days?

1. 15
2. 8
3. 12
4. 10
5. None of these

**Answer:** 1

**Solution:** Work done by 6 women and 10 children in 1 day =  $1/6$

Work done by 6 women in 1 day =  $1/10$

Therefore, work done by 10 children in 1 day =  $1/6 - 1/10$

$$= 1/15$$

Hence, 10 children can complete the work in 15 days.

**Directions Q. (18 - 22):** Study the following table carefully to answer the following questions.

Number of units manufactured (M) and sold (S) in hundreds by five different countries over the years

COMPANY	A		B		C		D		E	
	M	S	M	S	M	S	M	S	M	S
2006	2.8	1.3	3.3	2.2	2.6	1.7	3.0	2.2	1.9	1.4
2007	3.2	2.0	2.4	1.6	2.2	1.5	2.5	1.9	2.0	1.7
2008	1.9	0.9	2.9	1.6	2.1	1.0	2.3	1.5	1.6	1.1
2009	1.0	0.4	2.4	1.3	2.8	1.4	2.1	1.2	3.2	2.5
2010	2.5	1.5	2.3	1.2	2.6	2.1	1.8	1.1	3.1	2.6

**Q. (18)** What is the total number of units manufactured by Company C over all the years together?

1. 1420
2. 1030
3. 1230
4. 1320
5. None of these

**Answer:** 3

**Solution:** The total number of units manufactured by Company C over all the years together  
 $= 260 + 220 + 210 + 280 + 260$   
 $= 1230$

**Q. (19)** What is the approximate percent increase in the number of units sold by Company E in the year 2007 from the previous year?

1. 17
2. 36
3. 27
4. 32
5. 21

**Answer:** 1

**Solution:** Percentage increase  $= [(170 - 140) / 170] \times 100$   
 $= 300/17 = 17\%$  (approx.)

**Q. (20)** The number of units sold by Company D in the year 2006 is what percent of the number of units manufactured by it in that year? (rounded off to two digits after decimal)

1. 52.63
2. 61.57
3. 85.15
4. 73.33
5. None of these

**Answer:** 4

**Solution:** Company D in 2006,  $M = 300$  and  $S = 220$   
Let the no. of units sold be  $x\%$  of no. of units manufactured.

$$220 = x\% \text{ of } 300$$

$$220 = (x/100) \times 300$$

$$220 = 3x$$

$$x = 220/3$$

$$x = 73.33$$



**Q. (21)** What is the respective ratio of the total number of units manufactured by Company A and B together in the year 2009 to those sold by them in the same year?

1. 5:2
2. 3:1
3. 7:5
4. 3:2
5. None of these

**Answer:** 5

**Solution:** For Company A in 2009, M = 100, S = 40

For Company B in 2009, M = 240, S = 130

Hence, required number =  $(100 + 240) / (40 + 130) = 2:1$

**Q. (22)** What is the average number of units sold by Company D over all the years together?

1. 166
2. 158
3. 136
4. 147
5. None of these

**Answer:** 2

**Solution:** The average number of units sold by Company D over all the years together

$$= (220 + 190 + 150 + 120 + 110) / 5$$

$$= 790 / 5$$

$$= 158$$

**Q. (23)** The cost of 14 kgs of rice is 672, the cost of 12 kgs of wheat is 432 and the cost of 18 kgs of sugar is 504. What is the total cost of 20 kgs of rice, 15 kgs of wheat and 16 kgs of sugar?

1. 1,898
2. 1,948
3. 2,020
4. 1,964
5. None of these

**Answer:** 2

**Solution:** Cost of 1 kg rice =  $672 / 14 = 48$

Cost of 1 kg wheat =  $432 / 12 = 36$

Cost of 1 kg sugar =  $504 / 18 = 28$

Hence, cost of 20 kg rice =  $48 \times 20 = 960$

Cost of 15 kg wheat =  $36 \times 15 = 540$

Cost of 16 kg Sugar =  $28 \times 16 = 448$

Therefore, total cost =  $960 + 540 + 448 = 1948$

**Q. (24)** The strength of a university is 4500. The number of boys and girls is increased by 12% and 17% respectively. As a result, the strength of the university becomes 5125. Find the number of girls in the university.

1. 2800
2. 2400
3. 1700
4. 2100
5. 1500

**Answer:** 3

**Solution:** Let the no. of girls be  $y$ .

So, the no. of boys =  $4500 - y$

The no. of boys and girls is increased by 12% and 17% respectively. As a result, the strength of the university becomes 5125.

So, we can write now,

$$[(4500 - y) \times 12\%] + [y \times 17\%] = 5125 - 4500$$

$$\Rightarrow 54000 - 12y + 17y = 62500$$

$$\Rightarrow 5y = 62500 - 54000$$

$$\Rightarrow y = 8500/5$$

$$\Rightarrow y = 1700$$

$\therefore$  The no. of girls = 1700

**Q. (25)** In a survey, the satisfaction level of the customers with a product was analysed. It was found that 32% of the customers were satisfied with the product, 26% were dissatisfied with the product and the rest 189 customers were neither satisfied nor dissatisfied with the product. What was the total number of customers who were either satisfied or dissatisfied with the product?

1. 260
2. 270
3. 254
4. 285
5. 261

**Answer:** 5

**Solution:** Total no. of customers =  $(189 \times 100) / [100 - (32 + 26)]$

$$= 18900/42 = 450$$

Number of customers who are neither satisfied nor dissatisfied = 189

Hence, the number of customers who are either satisfied or dissatisfied =  $450 - 189 = 261$

**Q. (26)** At present, Aruna's age is 1.5 times the age of Pujan and twice the age of Somy. After six years, Aruna will be 1.4 times the age of Pujan and Somy will be 0.8 times the age of Pujan then, what is the present age of Somy?

1. 30 years
2. 36 years
3. 24 years
4. 18 years
5. None of these

**Answer:** 4

**Solution:** Let, Pujan's present age be  $x$  years.

Therefore, Aruna's present age =  $1.5x$  years

Somy's present age =  $1.5x/2$  years

After 6 years,

Pujan's age =  $(x + 6)$  years

Aruna's age =  $(1.5x + 6)$  years

Now,  $1.4(x + 6) = (1.5x + 6)$

$$\Rightarrow 1.4x + 8.4 = 1.5x + 6$$

$$\Rightarrow 0.1x = 2.4$$

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

Therefore, Somy's age =  $(1.5 \times 24)/2 = 18$  years.

**Q. (27)** A train moves with a speed of 30 km/hr for 12 minutes and for the next 8 minutes at a speed of 45 km/hr. the average speed of the train is:

1. 37.5 km/hr
2. 36 km/hr
3. 48 km/hr
4. 30 km/hr
5. None of these

**Answer:** 2

**Solution:** Distance = Speed  $\times$  Time

Distance covered by the train with the speed of 30 kmph in 12 minutes =  $30 \times 12/60 = 6$ km

Distance covered by the train with the speed of 45 kmph in 8 minutes =  $45 \times 8/60 = 6$ km

Average speed = (Total distance)/(Total time)

$$= (6+6)/(12+8) \text{ km/min}$$

$$= (12/20) \times 60 \text{ kmph}$$

$$= 36 \text{ kmph}$$

