

## Mphasis Aptitude Questions and Answers with Explanation



1. 6, 23, 56, ?, 184, 219

- A. 109
- B. 107
- C. 106
- D. 104

**Answer – A. 109**

**Explanation:**

$$2^3 - 2^1$$

$$3^3 - 2^2$$

$$4^3 - 2^3$$

$$109$$

2. 3, 7, 12, 27, 50, ?

- A. 85
- B. 105
- C. 100
- D. 95

**Answer – B. 105**

**Explanation:**

$$3 * 2 + 1$$

$$7 * 2 - 2$$

$$12 * 2 + 3$$

$$27 * 2 - 4$$

$$50 * 2 + 5 = 105$$

3. 672, 681, 663, 672, 654, ?

- A. 663
- B. 687
- C. 675
- D. 643

**Answer - A. 663**

**Explanation:**

$$672+9 = 681$$

$$681-18 = 663$$

$$663+9 = 672$$

$$672-18 = 654$$

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$$654+9 = 663$$

4. **346, 173, 259.5, 648.75, ?**

- A. 2270.62
- B. 1450.25
- C. 1560.54
- D. 2125.75

**Answer - A. 2270.62**

**Explanation:**

$$(346 \div 2) * 1 = 173$$

$$(173 \div 2) * 3 = 259.5$$

$$(259.5 \div 2) * 5 = 648.75$$

$$(648.75 \div 2) * 7 = 2270.62$$

5. **2, 11, 46, ?, 286**

- A. 136
- B. 156
- C. 190
- D. 141

**Answer – A. 141**

**Explanation:**

$$2 * 5 + 1 = 11$$

$$11 * 4 + 2 = 46$$

$$46 * 3 + 3 = 141$$

6. **17, 17, 34, 136, ?**

- A. 2345
- B. 3214
- C. 1088
- D. 1546

**Answer - C. 1088**

**Explanation:**

$$17 * 1 = 17$$

$$17 * 2 = 34$$

$$34 * 4 = 136$$

$$136 * 8 = 1088$$

7. 16, 33, 69, 126, ?

- A. 257
- B. 246
- C. 206
- D. 298

**Answer - C. 206**

**Explanation:**

$$\begin{aligned}16+(16*1+1) &= 16+17 = 33 \\33+(17*2+2) &= 33 + 36 = 69 \\69+(18*3+3) &= 69+57 = 126 \\126+(19*4+4) &= 126+ 80 = 206\end{aligned}$$

8. 980, 147, 28, 11, 8.57, ?

- A. 5.675
- B. 8.224
- C. 12.653
- D. 10.765

**Answer - B. 8.224**

**Explanation:**

$$\begin{aligned}980/7 + 7 &= 147 \\147/7 + 7 &= 28 \\28/7 + 7 &= 11 \\11/7 + 7 &= 8.57 \\8.57 /7 + 7 &= 8.224\end{aligned}$$

9. 5 kg of an article is bought at Rs 480, 1/3rd of it is sold at a profit of 20%. At what loss% should the remaining article be sold so that there is an overall profit of 3 1/3%?

- A. 8.5%
- B. 7%
- C. 6.5%
- D. 5%

**Answer - D. 5%**

**Explanation:**

Let the remaining 2/3rd be sold at x% loss

$$1/3(20) + 2/3(-x) = 3 \frac{1}{3} \text{ [x\% loss, so used - sign]} \quad 1/3(20) + 2/3(-x) = 10/3$$

Solve, x = 5%



10. An article is sold at a 25% profit. If the CP and the SP of the article are increased by Rs 60 and Rs 30 respectively, the profit% decreases by 15%. Find the cost price of the article.

- A. Rs 285
- B. Rs 305
- C. Rs 190
- D. Rs 240

**Answer - D. Rs 240**

**Explanation:**

CP = x, then SP =  $(125/100) * x = 5x/4$

New CP =  $(x+60)$ , new SP =  $(5x/4 + 30)$ , new profit% =  $25-15 = 10$

So  $(5x/4 + 30) = (110/100) * (x+60)$

Solve,  $x = 240$

Therefore, the cost price of the article = Rs. 240.

11. A boat can row at 16 km/hr in still water and the speed of river is 10 km/hr. Find the speed of boat with the river and speed of boat against the river.

- A. 26 km/hr, 6 km/hr
- B. 6 km/hr, 26 km/hr
- C. 13 km/hr, 3 km/hr
- D. 15 km/hr, 5 km/hr

**Answer - A. 26 km/hr, 6 km/hr**

**Explanation:**

Speed with the river (downstream) =  $16+10 = 26$  km/hr

Speed against the river (upstream) =  $16-10 = 6$  km/hr

12. A man goes downstream 60 km and upstream 20 km, taking 4 hrs each. What is the velocity of current?

- A. 6 km/hr
- B. 5 km/hr
- C. 4 km/hr
- D. 8 km/hr

**Answer - B. 5 km/hr**

**Explanation:**

Downstream speed =  $60/4 = 15$  km/hr

Upstream speed =  $20/4 = 5$  km/hr

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Therefore, Velocity of stream =  $(15-5)/2 = 5$  km/hr

**13. The ratio between the A and B age is 7: 9. If the difference between the present ages of Q and P's age after 4 years is 2 then what is the total of the present ages of P and Q?**

- A. 42
- B. 44
- C. 46
- D. 48

**Answer – D. 48**

**Explanation:**

let the age of B is  $9x$  and that of A is  $7x$ . So

$$9x - (7x + 4) = 2, x = 3$$

So sum will be =  $27 + 21 = 48$

**14. Rekha married 6 years ago. Today her age is  $5/4$  times her age at the time of her marriage. Her daughter age is  $1/5$  of her age. What is the ratio of Rekha age to her daughter age after 6 years?**

- A. 2:1
- B. 3:1
- C. 4:3
- D. 5:2

**Answer – B. 3:1**

**Explanation:**

$$R = (5/4) * (R - 6)$$

$R = 30$  years and daughter age =  $30/5 = 6$  years.

After 6 years ratio will be =  $36/12 = 3:1$

**15. A laborer was appointed by a contractor on the condition he would be paid Rs 150 for each day of his work but would be, fined at the rate of Rs 30 per day for his absent. After 20 days, the contractor paid the laborer's 2820. The number of days the laborer absented from work days:**

- A. 13 days
- B. 19 days
- C. 5 days
- D. 12 days



**Answer – B. 19 days**

**Explanation:**

Let the required number of days =x days

So,  $150x - (20-x)30 = 2820$

$x = 19$  days

Therefore, the number of days the labourer absented from work days = 19 days

**16. Rahul can finish a job in 20 days. He worked for 10 days alone and completed the remaining job working with David, in 2 days. How many days would both David and Rahul together take to complete the entire job?**

- A. 10
- B. 12
- C. 4
- D. 5

**Answer – C. 4**

**Explanation:**

Rahul alone finished  $1/2$  of the work in 10 days.

Remaining  $1/2$  was finished by Rahul and David together in 2 days.

Therefore, they both together can finish the complete job in 4 days.

Hence, it is proved

**17. Two pipes P and Q can fill a tank in 10 min and 12 min respectively and a waste pipe can carry off 12 liters of water per minute. If all the pipes are opened when the tank is full and it takes one hour to empty the tank. Find the capacity of the tank.**

- A. 60
- B. 75
- C. 30
- D. 45

**Answer – A. 60**

**Explanation:**

Let the waste pipe take 'T' time to empty the tank.

$(1/10 + 1/12 - 1/T) \times 60 = -1$

We will get  $T = 5$  min

Therefore, the capacity of the tank is  $5 \times 12 = 60$  liters

**18. Two pipes can separately fill the tank in 15 hrs and 30 hrs respectively. Both the pipes are opened and when the tank is  $1/3$  full a leak is developed due to which  $1/3$  water supplied by the pipe leaks out. What is the total time to fill the tank?**

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- A.  $40/3$  hr
- B.  $50/3$  hr
- C.  $20/3$  hr
- D.  $35/3$  hr

**Answer – A.  $40/3$  hr**

**Explanation:**

$$(1/15 + 1/30) * T_1 = 1/3, T_1 = 10/3 \text{ hr}$$

now after leak is developed,  $[(1/15 + 1/30) - (1/3)] * (1/15 + 1/30) * T_2 = 2/3$

$T_2 = 10$  hr. So total time to fill the tank =  $10 + 10/3 = 40/3$  hr

**19. There are 2 containers of equal capacity. The ratio of milk to water in the first container is 4:5 and in the second container is 3:7. If they are mixed up then the ratio of milk to water in the mixture will be**

- A. 34: 75
- B. 67: 113
- C. 17: 63
- D. 65: 96

**Answer – B. 67: 113**

**Explanation:**

$$4+5 = 9 \Rightarrow 40: 50$$

$$3+7 = 10 \Rightarrow 27:63$$

$$40+27: 50: 63 = 67: 113$$

the ratio of milk to water in the mixture is 67: 113

**20. A bag contains 10p, 25p and Rs50p coins in the ratio of 5: 2: 1 respectively. If the total money in the bag is Rs.120. Find the number of 25p coins in that bag?**

- A. 110
- B. 90
- C. 160
- D. 130

**Answer – C. 160**

**Explanation:**

$$10*5 : 25*2 : 50*1 = 50:50:50 = 1:1:1$$

$$120/3 = \text{Rs.}40$$

$$\text{Rs. } 1 = 4$$

$$\text{Rs.}40 = 4*40 = 160 \text{ coins}$$



**22. Ram and Gopal have money in the ratio 5: 12 and Gopal and Krishna also have money in the same ratio 5: 12. If Ram has Rs. 500, Krishna has**

- A. Rs.2500
- B. Rs.2880
- C. Rs.1850
- D. Rs.3100

**Answer – B. Rs.2880**

**Explanation:**

Ram: Krishna =  $5/12 \times 5/12 = 25/144$

Hence, Krishna has  $144 \times 500 / 25 = 2880$

**23. The ratio of students of three classes is 2:3:4. If 12 students are increased in each class then their ratio turns into 13:18:23. What was the total number of students in all the three classes originally ?**

- A. 225
- B. 190
- C. 250
- D. 215

**Answer – A. 225**

**Explanation:**

50:75:100

15 students increased

65:90:115  $\Rightarrow$  13:18 :23

Total no of students in all the three classes =  $50+75+100 = 225$

**24. A circular wire of diameter 84 cm is bent into a rectangle with sides ratio 6: 5. What are the respective sides of the rectangle?**

- A. 72 cm, 60 cm
- B. 90 cm, 75 cm
- C. 60 cm, 72 cm
- D. 78 cm, 65 cm

**Answer - A. 72 cm, 60 cm**

**Explanation:**

Length of wire =  $2\pi r = 2(22/7) \times 42 = 264$  cm

Perimeter of rectangle =  $2(6x+5x) = 264$

Solve,  $x = 12$



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So dimensions –  $12 \times 6$ ,  $12 \times 5 = 72, 60$

**25. The total cost of painting the walls of a room is Rs 475. Find the cost of painting the walls of another room whose length, breadth and height each are double than the dimensions of the previous room.**

- A. Rs 1846
- B. Rs 1960
- C. Rs 1780
- D. Rs 1900

**Answer - D. Rs 1900**

**Explanation:**

Area of first room =  $2(l+b) \times h$

After all dimensions doubled, new area =  $2(2l+2b) \times 2h = 4[2(l+b) \times h] = 4$  times previous area

Then, cost of painting =  $4 \times 475$