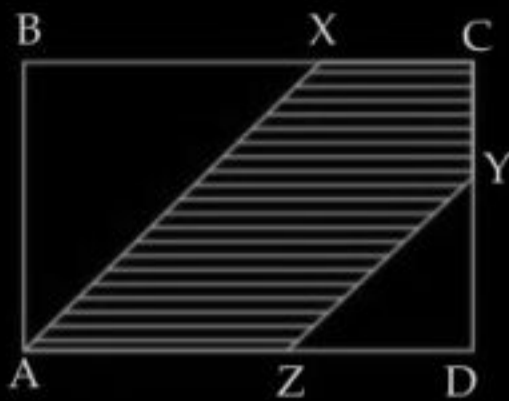


1. In the figure ABCD is a parallelogram with area  $120 \text{ cm}^2$  and  $BX : XC = 3 : 2$ ,  $CY : YD = 2 : 1$  and  $AZ : ZD = 3 : 1$ .

Area (in  $\text{cm}^2$ ) of pentagon AXCYZ is—



- (A) 47 (B) 63  
(C) 73 (D) 79
2. A and B travel around a circular path at uniform speeds in opposite directions, starting from diametrically opposite points, at the same time. They meet each other first after B has travelled 100 metre and meet again 60 metre before A completed one round. The circumference of the park is—  
(A) 240 m (B) 300 m  
(C) 320 m (D) 400 m
3. Let  $d$  be a two digit number. If half of  $d$  exceeds one-third of  $d$  by the sum of the digits in  $d$ , then the sum of the digits in  $d$  is—  
(A) 6 (B) 8  
(C) 9 (D) 15
4.  $\sqrt{43 - 12\sqrt{7}} - \frac{2}{\sqrt{16 + 6\sqrt{7}}} =$   
(A)  $2\sqrt{7} - 3$  (B)  $-2\sqrt{7} + 3$   
(C)  $-3$  (D)  $3$
5. In a group of 5 friends, the Sums of ages (in years) of each group of 4 of them are 124, 128, 130, 136 and 142. The age (in years) of the youngest of them is—  
(A) 18 (B) 21  
(C) 23 (D) 27
6. Fresh grapes contain 80% water by weight, whereas dried grapes

contain 15% water by weight. How many kg of dried grapes can be obtained from 3.4 kg of fresh grapes ?

- (A) 0.51 (B) 0.6  
(C) 0.68 (D) 0.8

7. The rate at which a river flows is one-third the speed of a boat in still water. If that boat travels down the river for 2 hours and then back up river for 2 hours, it will be 16 km short of its starting point. The speed (km/hr.) of the boat in still water is—  
(A) 4 (B) 6  
(C) 8 (D) 12
8. The perimeters of a square and a regular hexagon are equal. The ratio of the area of the hexagon to the area of the square is—  
(A)  $2\sqrt{3} : 3$  (B)  $\sqrt{3} : 1$   
(C)  $3\sqrt{3} : 2$  (D)  $\sqrt{2} : 3$
9. A sum of ₹ 91,000 is borrowed at 20% per annum compounded annually. If the amount is to be paid in three equal instalments, the annual instalment will be—  
(A) ₹ 43,200 (B) ₹ 42,800  
(C) ₹ 42,500 (D) ₹ 42,300
10. A can walk a certain distance in 10 days when he rests 9 hours a day. How long will he take to walk twice the distance, twice as fast and rest twice as long each day ?  
(A) 4 days (B) 10 days  
(C) 15 days (D) 25 days
11.  $p$  and  $q$  are inversely proportional to each other and are positive. If  $p$  increases by 100%, then  $q$  increases by—  
(A) 50% (B) 100%  
(C) 150% (D) 200%
12. LCM of two numbers is 28 times their HCF. The sum of HCF and

LCM is 1740. If one of these numbers is 240, the sum of digits of the other number is—

- (A) 4 (B) 5  
(C) 6 (D) 7

13. The surface of water in a swimming pool forms a rectangle with length 40 m and breadth 15 m. The depth of water increases uniformly from 1.2 m to 2.4 m at the other end. The volume (in  $\text{m}^3$ ) of water in the pool is—  
(A) 500 (B) 540  
(C) 720 (D) 1080
14. A shopkeeper placed on display some shirts each with a marked price. He then posted a board '1/4 off on shirts'. If the cost of a shirt was 2/3 of the price at which it was actually sold, the ratio of cost and marked price of a shirt was—  
(A) 1 : 2 (B) 1 : 3  
(C) 2 : 3 (D) 3 : 4
15. The mean of 15 different natural numbers is 13. The maximum value of the second largest of these numbers is—  
(A) 53 (B) 52  
(C) 51 (D) 50

Directions—(Q. 16 to 20) The following table gives demand and supply of Cement for the years 2005 to 2010. Surplus is defined as excess of supply over demand.

Years	million tons	
	Demand	Supply
2005	46.1	49.2
2006	49.2	49.8
2007	50.7	51.8
2008	51.6	52.1
2009	54.7	59.2
2010	57.8	58.4



