

**PARAGON CONVENT SCHOOL**

**SECTOR – 24 B , CHANDIGARH**

**ANSWER KEY**

**CLASS – 6**

**SUB – MATHS**

**EXERCISE – 3D**

**Q-1** Find the greatest number which divides 34 , 60 and 85 leaving remainders of 7 , 6 and 4 respectively.

Sol : The numbers which are divisible by the highest common factor are :

$$34 - 7 = 27 , 60 - 6 = 54 \text{ and } 85 - 4 = 81$$

$$\begin{array}{r|l} \text{Now HCF of } 27 , 54 \text{ and } 81 = & 3 \quad | \quad 27 , 54 , 81 \\ \hline & 3 \quad | \quad 9 , 18 , 27 \\ \hline & 3 \quad | \quad 3 , 6 , 9 \\ \hline & \quad | \quad 1 , 2 , 3 \end{array}$$

So , HCF of 27 , 54 and 81 =  $3 \times 3 \times 3 = 27$

Hence 27 is the greatest no that will divide 34 , 60 and 85 leaving remainders 7 , 6 and 4 respectively.

**Q-3** Find the greatest number which divides 189 , 223 and 347 leaving remainders of 9 , 3 and 7 respectively.

Sol : The numbers which are divisible by the highest common factor are :

$$189 - 9 = 180 , 223 - 3 = 220 \text{ and } 347 - 7 = 340$$

$$\begin{array}{r|l} \text{Now HCF of } 180 , 220 \text{ and } 340 = & 2 \quad | \quad 180 , 220 , 340 \\ \hline & 2 \quad | \quad 90 , 110 , 170 \\ \hline & 5 \quad | \quad 45 , 55 , 85 \\ \hline & \quad | \quad 9 , 11 , 17 \end{array}$$

So , HCF of 180 , 220 and 340 =  $2 \times 2 \times 5 = 20$

Hence 20 is the greatest no that will divide 189 , 223 and 347 leaving remainders 9 , 3 and 7 respectively.

Q-5. Find the greatest no that will divide 264 and 336 and leave a remainder 12 in each case .

Sol : The numbers which are divisible by the highest common factor are :

$$264 - 12 = 252 \quad \text{and} \quad 336 - 12 = 324$$

Now HCF of 252 and 324

2	252 , 324
2	126 , 162
3	63 , 81
3	21 , 27
	7 , 9

So , HCF of 252 and 324 =  $2 \times 2 \times 3 \times 3 = 36$

Hence 36 is the greatest no that will divide 264 and 336 leaves remainder 12 in each case.

Q-6. Swami packed 288 oranges and 624 apples in boxes . He packed oranges and apples in separate boxes . If he put equal no of fruits in each box , find the maximum no of fruits he put in each box?

Sol : Number of oranges = 288

Number of apples = 624 ,

We have to find the maximum no of fruits he can put in each box that means we have to find the largest no which can divide 288 and 624 exactly, i , e , the HCF of the two no.

2	288 , 624
2	144 , 312
2	72 , 156
2	36 , 78

3	18, 39
	6, 13

The HCF of 288, and  $624 = 2 \times 2 \times 2 \times 2 \times 3 = 48$

Hence he has to pack 48 fruits in each box.

Q-8 Jenny the florist, had 72 roses, 27 gladioli and 54 marigolds to be used to make bouquets. She has to make identical bouquets having all three varieties of flowers. What is the maximum no of identical bouquets that Jenny can make if she uses all the flowers /

Sol : we have to find maximum no of bouquets that Jenny can make if she uses all the flowers that means we have to find the largest no which can divide 72, 27 and 54 respectively, i.e., the HCF of the three no.

3	72, 27, 54
3	24, 9, 18
	8, 3, 6

The HCF of 72, 27 and  $54 = 3 \times 3 = 9$

Hence no of bouquets = 9

Q-9 A room is 7m20cm long and 5m20cm broad. If square tiles have to be laid in such a way that an exact no of tiles fit in and no tile has to be cut, what is the greatest length of the side of the square tiles ?

Sol : Length of the room = 7m20cm = 720cm

Breadth of the room = 5m20cm = 520cm

We have to find the dimension of the largest square tile that can be fixed on the floor so that the tiles need not be cut. Which means we have to find out the HCF of the length and the breadth of the room.

2	720, 520
2	360, 260
2	180, 130

$$\begin{array}{r|l} 5 & 90, 65 \\ \hline & 18, 13 \end{array}$$

The HCF of 720 and 520 =  $2 \times 2 \times 2 \times 5 = 40$

Thus the side of the square tiles must be 80cm.

