



MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

FACTORS AND MULTIPLES



1. Give the prime factorization of 1260 .

A. 2 imes 3 imes 3 imes 5 imes 7

B. 2 imes 2 imes 3 imes 3 imes 5 imes 7

 $\text{C.}~2\times2\times5\times7$

D. none of these

Answer: B

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2. Give the prime factorzation of 20570.

3. Find the HCF of 144 and 198 by the prime factorization method.

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4. Find the HCF of 396 and 1080 by the prime

factorization method.

5. Find HCF of 144.180 and 192 by the prime

factorization method.

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6. Find the HCF of 161 and 345 by the division method.



7. Find the HCF of 513 and 783.



respectively.

10. Reduce $\frac{289}{391}$ to the lowest terms.

A.
$$\frac{17}{23}$$

B. $\frac{19}{23}$
C. $\frac{17}{27}$
D. $\frac{18}{23}$

Answer: A



11. The length, breadth and height of a room are 1050 cm, 750 cm, and 425 cm respectively. Find the length of the longest tape which can measure the three dimenstions of the room exactly.



12. Find the LCM of 24, 36 and 40 by the prime

factorization method.

B. 420

C. 300

D. 280

Answer: A

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13. Find the LCM of 112, 168, 266 by the prime

factorization method.

14. Find the LCM of 12, 15, 20 27 by the division method. Watch Video Solution **15.** Find the LCM of 22, 54, 108, 135 and 198. Watch Video Solution 16. Find the smallest number which when diminished by 3 is divisible by 21, 28, 36 and 45. 17. In a shop. There are three clocks which chime at intervals of 15,20 and 30 minutes respectively. They all chimetogether at 10 a.m. At what time will they all chime together again ?

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18. Find the HCF and the LCM of 1152 and 1664.





19. The HCF of two numbers is 16 and their product is 3072. Find their LCM.

A. 185

B. 192

 $\mathsf{C}.\,172$

D. None of these

Answer: B

20. The HCF of two numbers is 23 and their LCM is 1449 . If one of the numbers is 161 find the other .

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21. Can two numbers have 16 as their HCF and

204 as their LCM ? Give reason.

1. Define : (i) factor (ii) multiple. Give five

examples of each

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2. Write down all the factors of

(i) 20, (ii) 36, (iii) 60 (iv) 75

3. Write the first five multiples of each of the

following numbers .

(i) 17 , (ii) 23, (iii) 65, (iv) 70



4. Which of the following numbers are even and which are odd ?
(i) 32, (ii) 37, (iii) 50, (iv) 58, (v) 69, (vi) 144, (vii)

321 (viii) 235



5. What are prime numbers ? Give ten examples.
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6. Write all the prime numbers between 10 and 40

A. 11, 13, 17, 19, 23, 29, 31, 37

B. 11, 13, 17, 19, 23, 29, 31, 39

 $\mathsf{C}.\,11,\,15,\,17,\,19,\,23,\,29,\,31,\,37$

D. None of these

Answer: A

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7. (i) Write the smallest prime number.

(ii) List all even prime numbers. (iii) Write the

smallest odd prime number.

8. Find which of the following numbers are primes : A. 87 **B**. 89 C. 63 D. 91

Answer: B

9. Make a list of seven consecutive numbers,

none of which is prime.



10. (i) Is there any counting number having no factor at all ? (ii) Find all the numbers having exactly one factor. (iii) Find numbers between 1 and 100 having exactly three factors.

11. What are composit numbers ? Can a composite number be odd ? If yes. Write the smallest odd composite number .



12. What are co-primes ? Write all the pairs of

twin primes between 50 and 100.



13. What are co-primes ? Give examples of five pairs of co-primes . Are co-primes always primes ? If no.illustrate your answer by an example .

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14. Express each of the following numbers as

the sum of two odd primes .

(i) 36, (ii) 42, (iii) 84, (iv) 98

15. Express each of the following odd numbers as the sum of three odd prime numbers .

63

A. 11 + 13 + 43

B. 10 + 13 + 40

C. 7 + 11 + 45

D. 7 + 13 + 43

Answer: D

16. Express each of the following numbers as the sum of twin primes :

(i) 36, (ii) 84, (iii) 120, (iv) 144

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17. Which of the following statements are true

?

(i) 1 is the smallest prime number .

(ii) If a number is prime . It must be odd .

(iii) The sum to two prime numbers is always a

prime number.

(iv) none of these.

A. A

B. B

C. C

D. D

Answer: D

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Exercise 2 B

1. Test the divisibtlity of the following numbers

by 2:

2650

A. 2650

B. 69435

C. 738943

D. None of these

Answer: A

2. Test the divisibility of the following numbers

by 3 :

10038

A. 79124

B. 872645

C. 20701

D. 10038

Answer: D



3. Test the divisibility of the following numbers

by 4 :

(i) 618 (ii) 2314 (iii) 63712 (iv) 35056 (v) 946126

(vi) 810524

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4. Test the divisibility of the following numbers

by 5 :

(i) 4965 (ii) 23590 (iii) 35208 (iv) 723405 (v)

124684 (vi) 438750



5. Test the divisibility of the following numbers

by 6 : (i) 2070 (ii) 46523 (iii) 71232 (iv) 934706

(v) 251780 (vi) 872536



6. Test the divisibility of the following numbers

by 7 :

(i) 826 (ii) 117 (iii) 2345 (iv) 6021 (v) 14126 (vi)

25368

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7. Test the divisibility of the following numbers

by 8 :

(i) 9364 (ii) 2138 (iii) 36792 (iv) 901674 (v)

136976 (vi) 1790184



8. Test the divisibility of the following numbers

by 9:

(i) 2358 (ii) 3333 (iii) 98712 (iv) 257106 (v)

647514 (vi) 326999

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9. Test the divisibility of the folowing numbers

by 10 :

(i) 5790 (ii) 63215 (iii) 55555



10. Test the divisibility of the following numbers by 11:
(i) 4334 (ii) 83721 (iii) 66311 (iv) 137269 (v)

901351 (vi) 8790322

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11. In each of the following numbers, replace* by the smallest number to make it divisible

by 3 :

(i) 27 * 4, (ii) 53 * 46, (iii) 8 * 711, (iv) 62 * 35,

(v) 234 * 17 , (vi) 6 * 1054

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12. In each of the following numbers. Replace* by the smallest number to make it divisibleby 9 :

(i) 65 * 5, (ii) 2 * 135, (iii) 6702 *, (iv) 91 * 67,

(v) 6678 * 1 , (vi) 835 * 86



- 13. In each of the following numbers, replace* by the smallest number to make it divisibleby 11 :
- (i) $26 \ast 5$, (ii) $39 \ast 43$, (iii) $86 \ast 72$, (iv) $467 \ast 91$
- , (v) 1723 * 4 , (vi) 9 * 8071



14. Test the divisibility of :

(i) 1000001 by 11, (ii) 19083625 by 11, (iii)

2134563 by 9, (iv) 10001001 by 3, (v) 10203574

by 4 , (vi) 12030624 by 8



15. Which of the following are prime numbers

?

(i) 103 (ii) 137 (iii) 161 (iv) 179 (v) 217 (vi) 277 (vii)

331 (viii) 397

16. Give an example of a number

(i) Which is divisible by 2 but not by 4.

(ii) Which is divisible by 4 but not by 8.

(iii) Which is divisible by both 2 but notby 16.

(iv) Which is divisible by both 3 and 6 but not

by 18.

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17. Write (T) for true and (F) for false against

each of the following statements :

(i) If a number is divisible by 4. it must be divisible by 8.

(ii) If a number is divisible by 8 . it must be divisible by 4 .

(iii) If a number divides the sum of two number exactly. it must exactly divide the num .bers separately.

(iv) If a number is divisible by both 9 and 10 . it

must be divisible by 90.

(v) A number is divisible by 18 if it is divisible by both 3 and 6 .

(vi) If a number is divisible by 3 and 7 . it must be divisible by 21.

(vii) The sum of two consecutive odd number

is always divisible by 4.

(viii) If a number divides two number exactly. it

must divide their sum exactly.

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Exercise 2 C

1. Give the prime factorization of each of the

following numbers :
A. $2^2 imes 5$ B. $2^2 imes 3$ C. $2^2 imes 7$ D. $2^3 imes 2$

Answer: B

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2. Give the prime factorization of each of the

following numbers :

- A. $2 imes 3^4$ B. $2 imes 3^3$ C. $2 imes 3^2$
- D. $3 imes 3^2$

Answer: C

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3. Give the prime factorization of each of the

following numbers :



following numbers :

90

136



7. Give the prime factorization of each of the

following numbers :

252

A.
$$2 imes 2 imes 3 imes 7$$

B. 2 imes 3 imes 7

 $\mathsf{C.}\,2\times2\times3\times3\times7$

D. none of these

Answer: C

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8. Give the prime factorization of each of the

following numbers :

420

637

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10. Give the prime factorization of each of the

following numbers :

945



1224

- A. $2^3 imes 3^2 imes 17$
- B. $2^3 imes 3^2 imes 19$
- C. $2^3 imes 3^2 imes 15$
- D. None of these

Answer: A

1323

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13. Give the prime factorization of each of the

following numbers :

8712

following numbers :

9317

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15. Give the prime factorization of each of the

following numbers :

1035

following numbers :

1197



17. Give the prime factorization of each of the

following numbers :

4641

following numbers :

4335

A. $3 imes5 imes17^2$

B. $3 imes7 imes17^2$

C. $3 imes9 imes17^2$

D. None of these

Answer: A

following numbers :

2907



20. Give the prime factorization of each of the

following numbers :

13915

1. Find the HCF of he numbers in each of the following , using the prime factorization method :

84,98

A. 13

B. 12

C. 15

D. 14

Answer: D



2. Find the HCF of he numbers in each of the following , using the prime factorization method :

170, 238



3. Find the HCF of he numbers in each of the following , using the prime factorization method :

504,980

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4. Find the HCF of he numbers in each of the following , using the prime factorization method :

72, 108, 180





5. Find the HCF of he numbers in each of the following , using the prime factorization method :
84, 120, 138

A. 12

B.6

C. 18

D. 3

Answer: B



following , using the prime factorization method :

106, 159, 371

A. 50

B. 1

D. 27

Answer: C

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7. Find the HCF of he numbers in each of the following , using the prime factorization method :

272, 425

8. Find the HCF of the numbers in each of the following , using the prime factorization method :

144, 252, 630

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9. Find the HCF of he numbers in each of the following , using the prime factorization method :

1197, 5320, 4389

10. Find the HCF of the numbers in each of the following, using the division method :

58,70

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11. Find the HCF of the numbers in each of the

following, using the division method :

399, 437

12. Find the HCF of the numbers in each of the following, using the division method :

1045, 1520

A. 92

B. 93

C. 94

D. 95

Answer: D



13. Find the HCF of the numbers in each of the

following, using the division method :

1965, 2096

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14. Find the HCF of the numbers in each of the

following, using the division method :

2241, 2324

15. Find the HCF of the numbers in each of the following, using the division method :

658, 940, 1128

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16. Find the HCF of the numbers in each of the

following, using the division method :

754, 1508, 1972

17. Find the HCF of the numbers in each of the following, using the division method :

391, 425, 527



18. Find the HCF of the numbers in each of the

following, using the division method :

1794, 2346, 4761

19. Show that the following pairs are co-primes

59,70

:



20. Show that the following pairs are coprimes :

161, 192

21. Show that the following pairs are co-primes

343, 432

:



22. Show that the following pairs are co-

primes :

512,945

23. Show that the following pairs are coprimes : 385,621

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24. Show that the following pairs are coprimes :

847, 1014

25. Find the greatest number which divides 615

and 963, leaving the remainder 6 in each case.

A. 57

B. 67

C. 77

D. 87

Answer: D

26. Find the greatest number which divides 2011 and 2623 , leaving remainders 9 and 5 respectively.

A. 153

B. 152

C. 151

D. 150

Answer: C

27. Find the greatest number that will divide 445, 572 and 699 , leaving remainders 4, 5, 6, respectively.

A. 42

B. 49

C. 70

D. 63

Answer: D



28. Reduce each of the following fractions to

the lowest terms :

(i)
$$\frac{161}{207}$$
 , (ii) $\frac{517}{799}$, (iii) $\frac{296}{481}$



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29. Three pieces of timber, 42-m, 49-m and 63m long, have to be divided into planks of the same length. What is the greatest possible length of each plank **30.** Three different containers contain 403 L, 434 L and 465 L of milk respectively. Find the capacity of the container which can measure the milk of all the containers in an exact number of times.

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31. There are 527 apples, 646 pears and 748 oranges . These are to be arranged in heaps containing the same number of fruits . Find

the greatest number of fruits possible in each

heap. How many heaps are formed ?

A. Number of heaps: 16

Greatest number of fruits possible: 163

B. Number of heaps: 17

Greatest number of fruits possible: 133

C. Number of heaps: 19

Greatest number of fruits possible: 123

D. Number of heaps: 15

Greatest number of fruits possible: 103

Answer: B



32. Determine the longest tape which can be used to measure exactly the lengths 7 m . 3 m85 cm and 12 m 95 cm .

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33. A rectangular courtyard is 18m 72cm long and 13m 20cm broad. It is to be paved with

square tiles of the same size. Find the least

possible number of such tiles.



34. Find the HCF of

(i) two prime numbers (ii) two consecutive numbers (iii) two co-primes (iv) 2 and an even number

1. Find the LCM of the numbers given below :

42,63

A. 116

- B. 126
- C. 136
- D. 146

Answer: B
2. Find the LCM of the numbers given below :

60,75



3. Find the LCM of the numbers given below :

12, 18, 20

4. Find the LCM of the numbers given below :

36, 60, 72

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5. Find the LCM of the numbers given below :36, 40, 126

A. 2410

B.2420

C.2510

D. 2520

Answer: D

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6. Find the LCM of the numbers given below :

16, 28, 40, 77

7. Find the LCM of the numbers given below :

28, 36, 45, 60

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8. Find the LCM of the numbers given below :

144, 180, 384



9. Find the LCM of the numbers given below :

48, 64, 72, 96, 108

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10. Find the HCF and LCM of

117, 221



11. Find the HCF and LCM of

234, 572

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12. Find the HCF and LCM of

693, 1078

13. Find the HCF and LCM of

145, 232

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14. Find the HCF and LCM of

861, 1353

A. 113, 9471

B. 123, 9471

C. 123, 9441

D. 103, 9471

Answer: B

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15. Find the HCF and LCM of

2923, 3239

16. For each pair of numbers , verify that their

product $= (HCF \times LCM)$

(i) 87, 145 (ii) 186, 403 (iii) 490, 1155

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17. The product of two numbers is 2160 and their HCF is 12 . Find their LCM.

18. The product of two numbers is 2560 and their LCM is 320 . Find their HCF.

A. 7

B. 8

C. 9

D. 10

Answer: B

19. The HCF of two numbers is 145 and their LCM is 2175. If one of the numbers is 725. Find the other.

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20. The HCF and LCM of two numbers are 131 and 8253 respectively. If one of the numbers is

917, fid the other.

21. Find the least number divisible by 15, 20, 24,

32 and 36.

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22. Find the least number which when divided by 25, 40 and 60 leaves 9 as the remainder ineach case.

23. Find the least number of five digits that is

exactly divisible by 16, 18, 24 and 30.

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24. Find the greatest number of five digits exactly divisible by 9, 12, 15, 18 and 24.

25. Three bells toll at intervals of 9, 12, 15 minutes. If they start tolling together , after what time will they next toll together ?



26. Three boys step off together from the same place. If their steps measure 36 cm. 48 cm and 54 cm at what distance from the starting point will they again step together ?



27. The traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds . If they start changing simultaneously at 8 a.m., after how much time will they change again simultaneously?

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28. Three measuring rods are 45 cm, 50 cm and 75 cm in length. What is the least length

of a rope that can be measured by the full

length of each of these three rods ?



29. An electronic divice makes a beep after every 15 minutes , Another device makes a beep after every 20 minutes. They beeped together at 6 a.m., at what time will they next beep together ?



30. The circumferences of four wheels are 50 cm, 60 cm, 75 cm, and 100 cm, . They start moving simultaneously. What least distance should they cover so that each wheel makes a complete number of revolutions ?

A. 3.5m

 $\mathsf{B.}\,3m$

C.4m

D. 4.5m

Answer: B

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Exercise 2 F

1. Which of the following numbers is divisible

by 3 ?

A. 24357806

B. 35769812

C. 83479560

D. 3336433





2. Which of the following numbers is divisible by 9 ?

A. 8576901

B. 96345210

C. 67594310





3. Which of the following numbers is divisible by 4 ?

A. 78653234

B. 98765042

C. 24689602

D. 87941032





4. Which of the following numbers is divisible by 8 ?

A. 96354142

B. 37450176

C. 57064214





5. Which of the following numbers is divisible by 6 ?

A. 8790432

B. 98671402

C. 85492014





6. Which of the following numbers is divisible by 11 ?

A. 3333333

B. 1111111

C. 22222222





7. Which of the following is a prime number ?

A. 81

B. 87

C. 91

D. 97

Answer: D



8. Which of the following is a prime number ?

A. 117

B. 171

C. 179

D. none of these

Answer: C

9. Which of the following is a prime number ?

A. 323

B. 361

C. 263

D. none of these

Answer: C

10. Which of the following are co-primes ?

A.8,12

B.9,10

C. 6, 8

D. 15, 18

Answer: B

11. Which of the following is a composite number ?

A. 23

B. 29

C. 32

D. none of these

Answer: C

12. The HCF of 144 and 198 is .

A. 9

B. 12

C. 6

D. 18

Answer: D



13. The HCF of 144, 180 and 192 is

A. 12

B. 16

C. 18

D. 8

Answer: A

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14. Which of the following are co-primes ?

B. 161, 192

C. 385, 462

D. none of these

Answer: B



A.
$$\frac{11}{23}$$

B. $\frac{13}{31}$

C.
$$\frac{17}{31}$$

D. $\frac{17}{23}$

Answer: D



16. The greatest number which divides 134 and

167 leaving 2 as remainder in each case is

A. 14

B. 17

C. 19

D. 33

Answer: D



17. The LCM of 24, 36, 40 is .

A. 4

B. 90

C. 360

D. 720

Answer: C

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18. The LCM of 12, 15, 20, 27 is .

A. 270

B. 360

C. 480

D. 540

Answer: D



19. The smallest number which when diminished by 3 is divisible by 14, 28, 36 and 45 is

A. 1257

B. 1260

C. 1263





20. The HCF of two co-primes is

A. the smaller number

B. the larger number

C. 1

D. none of these

Answer: C


21. If a and b are co-primes , then their LCM is .

A. 1

B.
$$\frac{a}{b}$$

C. ab

D. none of these

Answer: C



22. The product of two numbers is 2160 and their HCF is 12 . The LCM of these numbers is

A. 12

B. 25920

C. 180

D. none of these

Answer: C

23. The HCF of two numbers is 145 and their LCM is 2175 . If one of the numbers is 725 , the other number is

A. 290

B. 435

C. 5

D. none of these

Answer: B

24. The least number divisible by each of the

numbers 15, 20, 24, 32 and 36 is

A. 1660

B. 2880

C. 1440

D. none of these

Answer: C

25. Three bells toll together at intervals of 9, 12, 15 minutes . If they start tolling together, after what time will they next toll together ?

A.1hour

B.
$$1\frac{1}{2}$$
 hours
C. $2\frac{1}{2}$ hours

D. 3 hours

Answer: D

1. Test the divisibility of 5869473 by 11.

A. divisible

B. Not divisible

C. can not say anything

D. none of these

Answer: B

2. Test the divisibility of 67529124 by 8.



4. The HCF of two number is 15 and their product is 1650. Find their LCM.



5. Find the least 5-digit number which is exactly divisible by 20, 25, 30.

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6. Find the largest number which divides 630 and 940 leaving remainders 6 and 4 respectively

7. Find the least number which when divided by 16,36 and 40 leaves 5 as remainder in each

case.



8. Write all prime numbers between 50 and

100.

9. Write seven consecutivecomposite numbers

less than 100 having no prime number between them.

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10. Can two numbers have 12 as their HCF and

512 as their LCM ? Justify your answer .

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Test Paper 2 B M C Q

1. Which of the following are co-primes ?

A. 91 and 72

 ${\tt B.\,34~and~51}$

 $\mathsf{C.}\,21 \text{ and } 36$

 $\mathsf{D.}\,15 \text{ and } 20$

Answer: A



2. The LCM of two co-prime numbers is their .

A. Sum

B. Difference

C. Product

D. Quotient

Answer: C

3. The number which is neither prime nor composite is

A. 4

B. 1

C. 2

D. 3

Answer: B

4. What least number should be replaced for
* so that the number 67301 * 2 is exactly
divisible by 9 ?

A. 5

B. 6

C. 7

D. 8

Answer: D



5. Which of the following numbers is divisible by 6 ?

A. 67821

B. 78134

C. 87432

D. none of these

Answer: C

6. Which of the following is a prime number ?

A. 143

B. 131

C. 147

D. 161

Answer: B



7. $\frac{289}{391}$ when reduced to lowest term is .

A.
$$\frac{13}{17}$$

B. $\frac{17}{19}$
C. $\frac{17}{23}$
D. $\frac{17}{21}$

Answer: C

8. Every counting number has an infinite number of

A. factors

B. multiples

C. prime factors

D. none of these

Answer: B

1. Fill in the blanks.

(i) 1 is neither nor

(ii) The smallest prime number is

(iii) The smallest composite number is

(iv) The HCF of two consecutive odd numbers

is

(v) Two prefect numbers areand

1. Write 'T' for true and 'F' for false statement . (i) Every prime number is odd. (ii) Every even number is composite (iii) The sum of two odd numbers is always odd. (iv) The sum of two even numbers is always even. (v) The HCF of two given numbers is always a factor of their LCM .