MATHS

BOOKS - MTG IIT JEE FOUNDATION

PLAYING WITH NUMBERS

Illustration

1. Write all the factors of

128

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2. Write all the factors of

54

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3. Write first five multiples of:

32

Watch Video Solution

4. Write first five multiples of:

23

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5. Write all the multiples of each of the following less than or equal to 60.

12

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6. Write all the multiples of each of the following less than or equal to 60.

8

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7. Write all the multiples of each of the following less than or equal to 60.

27

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8. Select the odd and even numbers from the following

96342, 186481, 639123, 257770, 46819, 315768

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9. Which of the following are prime numbers?

96, 23, 41, 65, 91, 10, 31, 71, 43.

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10. Find the common factors of 48 and 72.

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11. Find the first four common multiples of 5 and 15.

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12. Which of the following numbers are divisible by 6?

936452

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13. Which of the following numbers are divisible by 6?

3640152

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14. Which of the following numbers are divisible by 6?

482649

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15. Which of the following numbers are divisible by 6?

93428917

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16. Which of the following numbers are divisible by 6?

4286160

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17. Which of the following numbers are divisible by 11?

9050602

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18. Which of the following numbers are divisible by 11?

1052524

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19. Which of the following numbers are divisible by 11?

1105645

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20. Which of the following numbers are divisible by 11?

7680794

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21. Which of the following numbers are divisible by 11?

23505

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22. Which of the following numbers are divisible by 5 and by 10?

198645

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23. Which of the following numbers are divisible by 5 and by 10?

384050

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24. Which of the following numbers are divisible by 5 and by 10?

196450

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25. Which of the following numbers are divisible by 5 and by 10?

1386425

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26. Which of the following numbers are divisible by 5 and by 10?

432190

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27. Which of the following numbers are divisible by 4 and by 8?

78636

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28. Which of the following numbers are divisible by 4 and by 8?

7721848

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29. Which of the following numbers are divisible by 4 or by 8?

370264

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30. Which of the following numbers are divisible by 4 and by 8?

1463356

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31. Which of the following numbers are divisible by 4 and by 8?

444184

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32. Using short division method, prime factorise the following :

198

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33. Using short division method, prime factorise the following :

264

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34. Using factor tree, prime factorise the following:

92

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35. Using factor tree, prime factorise the following:

36

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36. Find the HCF of 120, 180 and 250 by prime factorisation method.

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37. Find the HCF of 144 and 196 by using long division method.

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38. Find the HCF of 224, 252 and 84 by long division method

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39. Find the HCF of 42, 84 and 24 by common division method.

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40. Find the LCM of 128 and 208 by prime factorisation method

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41. Find the LCM of 125, 350 and 245 by common division method.

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42. The length, breadth and height of a room are 6 m 25 cm, 8 m 75 cm and 5 m 50 cm, respectively, Determine the longest rod which can measure the three dimensions of the room exactly.

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43. Find the least number that must be added to 1000 so that the sum is exactly divisible by 16, 64 and 256.

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Solved Examples

1. Write all the factors of:

124

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2. Write all the factors of:

360

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3. Write all the factors of:

96

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4. Find the HCF of each of the following by common division method.

24, 96, 108

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5. Find the HCF of each of the following by common division method.

216, 315, 180

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6. Find the HCF of each of the following by common division method.

140, 210

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7. Three persons started together for their morning walk. Their steps measure 15 cm, 25 cm and 30 cm respectively. What is the minimum distance each should walk so that all can cover the same distance in complete steps?

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8. Find the common factors of:

30, 60, 80

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9. Find the common factors of:

24, 36, 48

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10. Find the common factors of:

20, 46, 62

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11. Three brands A, B and C of biscuits are available in packets of 12, 15 and 21 biscuits respectively. If a shopkeeper wants to buy an equal number of biscuits,

of each brand, what is the minimum number of packets of each brand, he should buy?

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12. Write the first five multiples of

148

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13. Write the first five multiples of

324

Watch Video Solution

14. Write the first five multiples of

908

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15. Draw factor tree for each of the following:

192

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16. Draw factor tree for each of the following:

456

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17. Draw factor tree for the following:

102

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18. Using divisibility test, fill 'yes' or 'no' to complete the table.

	Number	Divisible by										
		2	3	4	5	6	7	8	9	10	11	12
(i)	483564											

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19. Find the smallest number which when divided by 25, 40 and 60 leaves remainder 8 in each case.

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20. In a seminar. the number of participants in Hindi, English and Mathematics are $60, 84$ and 108 respectively. Find the minimum number of rooms required if, in each room the same number of participants are to be seated and all of them being in the same subject.

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21. the HCF of two numbers is 6. If the numbers are 24 and 42, find their LCM.

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22. Three cars A, B and C are moving around a circular path. In one hour, car A completes 3 rounds, car B completes 2 rounds and car C completes 4 rounds. If they start from the same point at the same time, after how much time will they meet again at the same point from where they started out?

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23. The LCM and HCF of two numbers are respectively 2520 and 6. If one number is 120, find the other number.

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24. Find the smallest number which on dividing separately by 12, 20 and 24, leaves 7 as a remainder.

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25. Find the greatest 4-digit number which is exactly divisible by the numbers 4, 15 and 20.

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Ncert Section Exercise 3 1

1. Write all the factors of the following numbers :

24

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2. Write all the factors of the following numbers :

15

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3. Write all the factors of the following numbers :

21

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4. Write all the factors of the following numbers :

27

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5. Write all the factors of the following numbers :

12

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6. Write all the factors of the following numbers :

20

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7. Write all the factors of the following numbers :

18

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8. Write all the factors of the following numbers :

23

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9. Write all the factors of the following numbers :

36

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10. Write first five multiples of:

5

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11. Write first five multiples of:

8

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12. Write first five multiples of:

9

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13. Match the items in column 1 with the items in column 2. Column 1 Column 2 (i) 35 (a) Multiple of 8 (ii) 15 (b) Multiple of 7 (iii) 16 (c) Multiple of 70 (iv) 20 (d) Factor of 30 (v) 25 (e) Factor of 50 (f) Factor of 20

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14. Find all the multiples of 9 upto 100.

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Ncert Section Exercise 3 2

1. What is the sum of any two (a) Odd numbers (b) Even Numbers ?

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2. What is the sum of any two (a) Odd numbers (b) Even Numbers ?

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3. State whether the following statements are True or False

The sum of three odd numbers is even.

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4. State whether the following statements are True or False :

The sum of two odd numbers and one even number is even.

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5. State whether the following statements are True or False :

The product of three odd numbers is odd.

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6. State whether the following statements are True or False :

If an even number is divided by 2, the quotient is always odd.

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7. State whether the following statements are True or False :

All prime numbers are odd.

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8. State whether the following statements are True or False :

Prime numbers do not have any factors.

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9. State whether the following statements are True or False:

Sum of two prime numbers is always even.

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10. State whether the following statements are True or False :

2 is the only even prime number.

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11. State whether the following statements are True or False:

All even numbers are composite numbers

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12. State whether the following statements are True or False :

The product of two even numbers is always even.

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13. The numbers 13 and 31 are prime numbers. Both these numbers have same digits 1 and 3. Find such pairs of prime numbers upto 100

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14. Write down separately the prime and composite numbers less than 20.

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15. What is the greatest prime number between 1 and 10?

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16. Express the following as the sum of two odd primes.

44

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17. Express the following as the sum of two odd primes.

36

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18. Express the following as the sum of two odd primes.

24

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19. Express the following as the sum of two odd primes.

18

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20. Give three pairs of prime numbers whose difference is 2. [Remark : Two prime numbers whose difference is 2 are called twin primes]

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21. Which of the following numbers are prime?

23

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22. Which of the following numbers are prime?

51

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23. Which of the following numbers are prime?

37

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24. Which of the following numbers are prime?

26

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25. Write seven consecutive composite numbers less than 100 so that there is no prime number between them.

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26. Express each of the following numbers as the sum of three odd primes:

21

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27. Express each of the following numbers as the sum of three odd primes:

31

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28. Express each of the following numbers as the sum of three odd primes:

53

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29. Express each of the following numbers as the sum of three odd primes:

61

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30. Write five pairs of prime numbers less than 20 whose sum is divisible by 5. Hint : 3+7 = 10)

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31. Fill in the blanks : (a) A number which has only two factors is called a _____. (b) A number which has more than two factors is called a _____. (c) 1 is neither _____ nor _____. (d) The smallest prime number is _____. (e) The smallest com

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32. Fill in the blanks : (a) A number which has only two factors is called a _____. (b) A number which has more than two factors is called a _____. (c) 1 is neither _____

nor _____. (d) The smallest prime number is _____. (e)

The smallest com

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33. Fill in the blanks:

1 is neither___ nor___

Watch Video Solution

34. Fill in the blanks:

The smallest prime number is___

Watch Video Solution

35. Fill in the blanks:

The smallest composite number is____

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36. Fill in the blanks:

The smallest even number is____

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Ncert Section Exercise 3 3

1. Using divisibility tests, determine which of the following numbers are divisible by 2; by 3; by 4; by 5; by 6; by 8; by 9; by 10 ; by 11 (say, yes or no):

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2. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

572

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3. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

726352

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4. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

5500

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5. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

6000

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6. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

12159

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7. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

14560

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8. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

21084

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9. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

31795072

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10. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

1700

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11. Using divisibility tests, determine which of the following numbers are divisible by 4, by 8:

2150

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12. Using divisibility tests, determine which of following numbers are divisible by 6:

277144

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13. Using divisibility tests, determine which of following numbers are divisible by 6:

1258

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14. Using divisibility tests, determine which of following numbers are divisible by 6:

4335

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15. Using divisibility tests, determine which of following numbers are divisible by 6:

61233

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16. Using divisibility tests, determine which of following numbers are divisible by 6:

901352

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17. Using divisibility tests, determine which of following numbers are divisible by 6:

438750

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18. Using divisibility tests, determine which of following numbers are divisible by 6:

1790184

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19. Using divisibility tests, determine which of following numbers are divisible by 6:

12583

Watch Video Solution

20. Using divisibility tests, determine which of following numbers are divisible by 6:

639210

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21. Using divisibility tests, determine which of following numbers are divisible by 6:

17852

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22. Using divisibility tests, determine which of the following numbers are divisible by 11:

5445

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23. Using divisibility tests, determine which of the following numbers are divisible by 11:

10824

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24. Using divisibility tests, determine which of the following numbers are divisible by 11:

7138965

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25. Using divisibility tests, determine which of the following numbers are divisible by 11:

70169308

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26. Using divisibility tests, determine which of the following numbers are divisible by 11:

10000001

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27. Using divisibility tests, determine which of the following numbers are divisible by 11:

901153

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28. Write the smallest digit and the greatest digit in the blank space of each of the following numbers so that the number formed is divisible by 3:

___6724

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29. Write the smallest digit and the greatest digit in the blank space of each of the following numbers so that the number formed is divisible by 3:

4765___2

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30. Write a digit in the blank space of each of the following numbers so that the number formed is divisible by 11 : (a) (b)

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31. Write a digit in the blank space of each of the following numbers so that the number formed is divisible by 11 : (a) (b)

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Ncert Section Exercise 3 4

1. Find the common factors of : (a) 20 and 28 (b) 15 and 25 (c) 35 and 50 (d) 56 and 120

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2. Find the common factors of: 15 and 25 (ii) 35 and 50 (iii) 20 and 28

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3. Find the common factors of: 15 and 25 (ii) 35 and 50 (iii) 20 and 28

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4. Find the common factors of 56 and 120.

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5. Find the common factors of : (a) 4, 8 and 12 (b) 5, 15 and 25

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6. Find the common factors of: 5, 15 and 25 (ii) 2, 6 and 8

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7. 3. Find first three common multiples of : (a) 6 and 8 (b) 12 and 18

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8. 3. Find first three common multiples of : (a) 6 and 8 (b) 12 and 18

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9. Write all the numbers less than 100 which are common multiples of 3 and 4.

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10. Which of the following numbers are co-prime? (a) 18 and 35 (b) 15 and 37 (c) 30 and 415 (d) 17 and 68 (e) 216

and 215 (f) 81 and 16

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11. Which of the following numbers are co-prime? (a) 18 and 35 (b) 15 and 37 (c) 30 and 415 (d) 17 and 68 (e) 216 and 215 (f) 81 and 16

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12. Which of the following numbers are co-prime? (a) 18 and 35 (b) 15 and 37 (c) 30 and 415 (d) 17 and 68 (e) 216 and 215 (f) 81 and 16

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13. निम्नलिखित में से कौन सी संख्याएँ सह-अभाज्य है ?

15 और 37

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14. Which of the following numbers are co-prime? (a) 18 and 35 (b) 15 and 37 (c) 30 and 415 (d) 17 and 68 (e) 216 and 215 (f) 81 and 16

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15. Which of the following numbers are co-prime? (a) 18 and 35 (b) 15 and 37 (c) 30 and 415 (d) 17 and 68 (e) 216 and 215 (f) 81 and 16

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16. A number is divisible by both 5 and 12. By which other number will that number be always divisible ?

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17. A number is divisible by 12. By what other numbers will that number be divisible ?

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Ncert Section Exercise 3 5

1. Which of the following statements are true? (a) If a number is divisible by 3, it must be divisible by 9. (b) If a number is divisible by 9, it must be divisible by 3. (c) A number is divisible by 18, if it is divisible by both 3 and 6. (d) If

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2. Which of the following statements are true?

If a number is divisible by 9, it must be divisible by 3.

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3. Which of the following statements are true?

A number is divisible by 18, if it is divisible by both 3 and 6.

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4. Which of the following statements are true? If a number is divisible by 3, it must be divisible by 9. If a

number is divisible by 9, it must be divisible by 3. If a number is divisible by 4, it must be divisible by 8. If a number is divisible by 8, it must be divisible by 4. If a number is divisible by 18, if it is divisible by both 3 and 6. If a number is divisible by both 9 and 10, it must be divisible by 90. If a number exactly divides the sum of two numbers, it must exactly divide the numbers separately. If a number divides three numbers exactly, it must divide their sum exactly. If two numbers are co-prime, at least one of them must be a prime number. The sum of two consecutive odd numbers is always divisible by 4.

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5. Which of the following statements are true? (a) If a number is divisible by 3, it must be divisible by 9. (b) If a number is divisible by 9, it must be divisible by 3. (c) A number is divisible by 18, if it is divisible by both 3 and 6. (d) If

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6. Which of the following statements are true? (a) If a number is divisible by 3, it must be divisible by 9. (b) If a number is divisible by 9, it must be divisible by 3. (c) A number is divisible by 18, if it is divisible by both 3 and 6. (d) If

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7. Which of the following statements are true? (a) If a number is divisible by 3, it must be divisible by 9. (b) If a number is divisible by 9, it must be divisible by 3. (c) A number is divisible by 18, if it is divisible by both 3 and 6. (d) If

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8. Which of the following statements are true? (a) If a number is divisible by 3, it must be divisible by 9. (b) If a number is divisible by 9, it must be divisible by 3. (c) A number is divisible by 18, if it is divisible by both 3 and 6. (d) If

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9. Which of the following statements are true? (a) If a number is divisible by 3, it must be divisible by 9. (b) If a number is divisible by 9, it must be divisible by 3. (c) A number is divisible by 18, if it is divisible by both 3 and 6. (d) If

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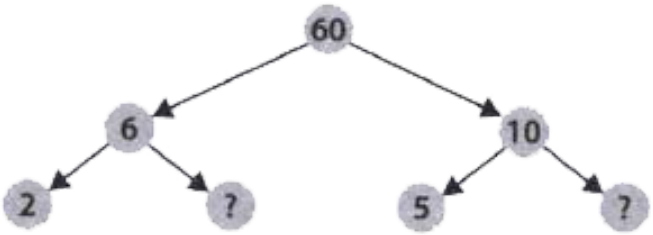
10. Here are two different factor trees for 60. Write the missing numbers.



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11. Here are two different factor trees for 60. Write the missing numbers.

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12. Which factors are not included in the prime factorisation of a composite number?

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13. Write the greatest 4-digit number and express it in terms of its prime factors.

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14. Write the smallest 5-digit number and express it in the form of its prime factors.

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15. Find all the prime factors of 1729 and arrange them in ascending order. Now state the relation, if any;

between two consecutive prime factors.

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16. The product of three consecutive numbers is always divisible by 6. Verify this statement with the help of some examples.

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17. The sum of two consecutive odd numbers is divisible by 4. Verify this statement with the help of some examples.

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18. In which of the following expressions, prime factorisation has been done? (a) 24 = 2 3 4 (b) 56 = 7 2 2 2 (c) 70 = 2 5 7 (d) 54 = 2 3 9

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19. In which of the following expressions, prime factorisation has been done? (a) 24 = 2 3 4 (b) 56 = 7 2 2 2 (c) 70 = 2 5 7 (d) 54 = 2 3 9

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20. In which of the following expressions, prime factorisation has been done? (a) 24 = 2 3 4 (b) 56 = 7 2 2 2 (c) 70 = 2 5 7 (d) 54 = 2 3 9

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21. In which of the following expressions, prime factorisation has been done? (a) 24 = 2 3 4 (b) 56 = 7 2 2 2 (c) 70 = 2 5 7 (d) 54 = 2 3 9

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22. Determine if 25110 is divisible by 45.

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23. 18 is divisible by both 2 and 3. It is also divisible by 2 3 = 6. Similarly, a number is divisible by both 4 and 6. Can we say that the number must also be divisible by ? If not, give an example to justify your answer.

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24. I am the smallest number, having four different prime factors. Can you find me?

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Ncert Section Exercise 3 6

1. Find the HCF of the following numbers:

18,60

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2. Find the HCF of the following numbers:

34,102

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3. Find the HCF of the following numbers:

70, 105, 175

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4. Find the HCF of the following numbers:

91,112,49

Watch Video Solution

5. Find the HCF of the following numbers:

18,54,81

Watch Video Solution

6. Find the HCF of the following numbers:

12,45,75

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7. What is the HCF of two consecutive (a) numbers? (b) even numbers? (c) odd numbers?

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8. What is the HCF of two consecutive (a) numbers? (b) even numbers? (c) odd numbers?

Watch Video Solution

9. The HCF of two consecutive odd numbers is .....

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10. HCF of co-prime numbers 4 and 15 was found as follows by factorisation : and since there is no common prime factor, so HCF of 4 and 15 is 0. Is the answer correct? If not, what is the correct HCF?

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Ncert Section Exercise 3 7

1. Renu purchases two bags of fertiliser of weights 75 kg and 69 kg. Find the maximum value of weight which can measure the weight of the fertiliser exact number of times.

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2. Three boys step off together from the same spot. Their steps measure 63 cm, 70 cm and 77 cm respectively. What is the minimum distance each should cover so that all can cover the distance in complete steps?

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3. The length, breadth and height of a room are 825 cm, 675 cm and 450 cm respectively. Find the longest tape which can measure the three dimensions of the room exactly.

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4. Determine the smallest 3-digit number which is exactly divisible by 6, 8 and 12.

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5. Determine the greatest 3-digit number exactly divisible by 8, 10 and 12.

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6. The traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds respectively. If they change simultaneously at 7 a.m., at what time will they change simultaneously again?

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7. Three tankers contain 403 litres, 434 litres and 465 litres of diesel respectively. Find the maximum capacity of a container that can measure the diesel of the three containers exact number of times.

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8. Find the least number which when divided by 6, 15 and 18 leave remainder 5 in each case.

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9. Find the smallest 4-digit number which is divisible by 18, 24 and 32

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10. Find the LCM of the following numbers : (a) 9 and 4 (b) 12 and 5 (c) 6 and 5 (d) 15 and 4 Observe a common property in the obtained LCMs. Is LCM the product of two numbers in each case?

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11. Find the LCM of the following numbers : (a) 9 and 4 (b) 12 and 5 (c) 6 and 5 (d) 15 and 4 Observe a common property in the obtained LCMs. Is LCM the product of two numbers in each case?

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12. Find the LCM of the following numbers : (a) 9 and 4 (b) 12 and 5 (c) 6 and 5 (d) 15 and 4 Observe a common property in the obtained LCMs. Is LCM the product of two numbers in each case?

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13. Find the LCM of the following numbers : (a) 9 and 4 (b) 12 and 5 (c) 6 and 5 (d) 15 and 4 Observe a common property in the obtained LCMs. Is LCM the product of two numbers in each case?

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14. Find the LCM of the following numbers in which one number is the factor of the the Other. (a) 5, 20 (b) 6, 18 (c) 12, 48 (d) 9, 45 What do you observe in the results obtained?

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15. Find the LCM of the following numbers in which one number is the factor of the the Other. (a) 5, 20 (b) 6, 18 (c) 12, 48 (d) 9, 45 What do you observe in the results obtained?

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16. Find the LCM of the following numbers in which one number is the factor of the the Other. (a) 5, 20 (b) 6, 18 (c) 12, 48 (d) 9, 45 What do you observe in the results obtained?

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17. Find the LCM of the following numbers in which one number is the factor of the other.

8,48

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Exercise Mcq Level 1

1. 55 is not a multiple of____

A. 1

B. 5

C. 22

D. 11

Answer:

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2. The sum of the factors of 35 is___

A. 84

B. 13

C. 40

D. 48

Answer:

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3. Which of the following numbers has a LCM 60?

A. (12,5,7)

B. (12,5, 60)

C. (2, 6, 10)

D. (3,6,10)

Answer:

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4. 532460 is not divisible by___

A. 10

B. 5

C. 3

D. 4

Answer:

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5. The number 53 is a___

A. odd

B. prime

C. Composite

D. Both odd and prime

Answer:

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6. HCF of 70, 105 and 175 is___

A. 35

B. 135

C. 1050

D. 7

Answer:

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7. Determine the number nearest to 110000 but greater than 100000 which is exactly divisible by each of 8, 15 and 21.

A. 100800

B. 100900

C. 100700

D. 100600

Answer:

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8. Which of the following is not a pair of twin primes between 10 and 40?

A. (11, 13)

B. (21, 23)

C. (17, 19)

D. (29, 31)

Answer:

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9. The least prime number with consecutive digits is___

A. 43

B. 19

C. 53

D. 23

Answer:

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10. The greatest number that exactly divides 81 and 153 is___

A. 3

B. 10

C. 9

D. 11

Answer:

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11. 96 is not a multiple of

A. (5, 15)

B. (3, 8)

C. (8, 12)

D. (4,24)

Answer:

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12. Replace y by the non-zero digit, if the number 68y70 is divisible by 6.

A. 2

B. 3

C. 1

D. 4

Answer:

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13. What is the sum of prime numbers between 11 and 20.

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14. Eight added to 9th multiple of 11 gives,___

A. 170

B. 107

C. 19

D. 91

Answer:

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15. Which of the following is a co-prime with 273

A. 357

B. 243

C. 353

D. None of these

Answer:

Watch Video Solution

16. The LCM of 504, 1260, 60 is___

A. 420

B. 2520

C. 252

D. 126

Answer:

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17. The sum of an even number and an odd number is an odd number.

A. Odd

B. Even

C. Both even and odd

D. Prime

Answer:

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18. Without actual division, find which of the following numbers is exactly divisible by 2, 3and 5?

A. 185

B. 5875

C. 3540

D. 709

Answer:

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19. What is the largest perfect number less than 50?

A. 6

B. 28

C. 51

D. 56

Answer:

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20. If a number is divisible by both 5 and 7, then it must necessarily be divisible by____

A. 5+7

B.

C.

D.

Answer:

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21. 7120 is not divisible by___

A. 5

B. 10

C. 6

D. 8

Answer:

Watch Video Solution

22. Which of the following numbers is not prime?

A. 161

B. 137

C. 127

D. 353

Answer:

Watch Video Solution

23. Which of the following is a prime number?

A. 263

B. 361

C. 323

D. 324

Answer:

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24. Which one of the following numbers is divisible by 3?

A. 27326

B. 42356

C. 73545

D. 45326

Answer:

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25. Find the HCF of 13, 91 and 117.

A. 1

B. 91

C. 117

D. 13

Answer:

Watch Video Solution

26. Find the LCM of 35, 55 and 95.

A. 1925

B. 7355

C. 7315

D. 385

Answer:

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27. Which of the following is not the factor of 207?

A. 3

B. 23

C. 7

D. 69

Answer:

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28. A number is divisible by 6 if it is divisible by

A. 2

B. 3

C. Both 2 and 3:

D. 12

Answer:

Watch Video Solution

29. The seventh multiple of 16 is___

A. 12

B. 112

C. 96

D. 23

Answer:

Watch Video Solution

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

A. 207

B. 23

C. 211

D. 209

Answer:

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Exercise Mcq Level 2

1. The greatest common factor of 120 and 192 is

A. 12

B. 24

C. 48

D. 84

Answer:

Watch Video Solution

2. The least 5-digit number which is exactly divisible by each of 2, 3, 4, 5, 6 and 7 is___

A. 9650

B. 420

C. 10080

D. 9660

Answer:

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3. Which of the following is not equal to $2 \times 3 \times 5$?

A. LCM of 15 and 2

B. HCF of 90 and 150

C. LCM of 30 and 25

D. Prime factorisation of 30

Answer:

Watch Video Solution

4. Which of the following number is a 6th multiple of 19?

A. 114

B. 35

C. 171

D. 361

Answer:

 Watch Video Solution

5. Find the maximum value of missing digit (*)to make 52 * 54 divisible by 3.

A. 2

B. 5

C. 8

D. None of these

Answer:

Watch Video Solution

6. Which of the following pairs of numbers is co-prime?

A. 39,91

B. 161, 192

C. 385, 462

D. 189, 243

Answer:

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

A. 1

B. a/b

C. ab

D. none of these

Answer:

Watch Video Solution

8. The sum of the prime numbers between 60 and 75 is

199 (b) 201 (c) 211 (d) 272

A. 199

B. 201

C. 211

D. 276

Answer:

Watch Video Solution

9. What least value should be given to "*" so that the number 915*26 is divisible by 9

A. 1

B. 4

C. 2

D. 6

Answer:

Watch Video Solution

10. The smallest odd prime number is

A. 1

B. 2

C. 3

D. 4

Answer:

 Watch Video Solution

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

A. 1257

B. 1260

C. 1263

D. None of these

Answer:

 Watch Video Solution

12. Find the greatest number of 6 digits exactly divisible by 24, 15 and 36.

A. 999720

B. 999999

C. 999920

D. 999990

Answer:

 Watch Video Solution

13. Find the greatest number which divides 285 and 1249 leaving remainders 9 and 7 respectively.

A. 135

B. 136

C. 136

D. 138

Answer:

Watch Video Solution

Exercise Match The Following

1. Match the following:

List-I	List-II
(P) A number divisible by 12 is	(1) 610
(Q) A number divisible by 10 is	(2) 121
(R) A number divisible by 11 is	(3) 432
(S) A number divisible by 3 but not by 6 is	(4) 2817

A. P-1,Q-2,R-3,S-4

B. P-3,Q-4,R-1,S-2

C. P-3,Q-1,R-2,S-4

D. P-4,Q-3,R-2,S-1

Answer:

Watch Video Solution

2. Match the following:

List-I	List-II
(P) 8th multiple of 15 is	(1) not a prime number
(Q) LCM of 18, 24, 27 is	(2) 216
(R) 33481 is	(3) 12
(S) HCF of 48, 72, 108 is	(4) 120

A. P-4,Q-2,R-1,S-3

B. P-2,Q-4,R-1,S-3

C. P-1,Q-3,R-2,S-4

D. P-4,Q-3,R-2,S-1

Answer:

Watch Video Solution

3. Match the following:

List-I	List-II
(P)Number ends in 0,5	(1)9
(Q)Even prime number is	(2)is divisible by 5
(R)Smallest composite odd number	(3)2
(S)HCF of 72 and 60	(4)12

A. P-3,Q-2,R-4,S-1

B. P-2,Q-3,R-1,S-4

C. P-4,Q-3,R-2,S-1

D. P-2,Q-3,R-4,S-1

Answer:

Watch Video Solution

Exercise Assertion Reason Type

1. Assertion: If 35 and 85 is divisible by 5, then, their sum 35 +85, is divisible by 5.

Reason : If a number is a factor of two given numbers, then it is the factor of their sum.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer:

Watch Video Solution

2. Assertion: The number 9020814' is divisible by 11.

Reason: A number is divisible by 11, if the sum of its digits is divisible by 11.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer:

Watch Video Solution

3. Assertion:9 is the smallest even composite number.

Reason : Composite number need not be even.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer:

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4. Assertion: HCF of 255 and 357 is 5.

Reason: HCF of co-prime numbers is 1.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer:

Watch Video Solution

5. Assertion: Let 13 and 17 are two prime numbers. LCM of 13 and 17 is 221.

Reason:The LCM of two prime numbers is always their product.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer:

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Exercise Comprehension Type Pasage I

1. Geeta have 50 red beads, 100 white beads and 120 blue beads. She wants to make similar bracelets so that she can use all beads of each colour.

What is the least number of similar bracelets she can make?

A. 15

B. 25

C. 10

D. 30

Answer:

Watch Video Solution

2. Geeta have 50 red beads, 100 white beads and 120 blue beads. She wants to make similar bracelets so that she can use all beads of each colour.

Find the LCM for given white beads and blue beads.

A. 600

B. 120

C. 150

D. 400

Answer:

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Exercise Comprehension Type Pasage Ii

1. If a is a factor of both b and c, then a is a factor of (b-c) and (b + c).

If 27 is a factor of a and b, then which of the following is factor of a + b?

A. 3

B. 9

C. 27

D. All of these

Answer:

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2. If the value of a=6, b=2 then what is the minimum value of c so that a is a factor of b + c?

A. 4

B. 5

C. 10

D. 7

Answer:

Watch Video Solution

3. If a is a factor of both b and e, then a is a factor of (b-c) and (b + c).

If a and bare multiples of 8, then which of the following would be the difference of the two numbers?

A. 4

B. 16

C. 1

D. 2

Answer:

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Exercise Subjective Problems Very Short Answer Type

1. Determine the prime factorisation of 840.

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2. Write all the prime numbers between 1 and 50.

Watch Video Solution

3. Composite number

Watch Video Solution

4. Find the LCM of 40, 144 and 180.

Watch Video Solution

5. Write the first five multiples of 13.

Watch Video Solution

6. Check if 401 is a prime number.

Watch Video Solution

7. List all 2-digit prime numbers, in which both the digits are also prime numbers.

Watch Video Solution

8. What is the least number divisible by 16, 20 and 24?

Watch Video Solution

9. Find the sum of all the prime numbers between 1 and 20.

Watch Video Solution

10. Find the HCF of 36, 56, 86.

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Exercise Subjective Problems Short Answer Type

1. Find the largest number which divides 245 and 1029 leaving remainder 5 in each case.

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2. Three city tour buses leave the bus stop at 9:00 a.m. Bus A returns in every 30 minutes, Bus B returns in every 20 minutes and Bus C returns in every 45 minutes. What is the next time, all buses will return at the same time to the bus stop?

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3. Find the greatest number of five digits which when divided by 3, 5, 8, 12 have 2 as remainder :

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4. State whether the numbers 27 and 29 are twin primes or co-primes.

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5. Check the divisibility of 226180 by 2, 3, 5.

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6. A rectangular room is 20 m 16 cm long and 15 m 60 cm wide. It is paved with square tiles of the same size. Find the greatest size of each tile.

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7. Find the LCM of 14, 21 and 35 by prime factorisation method.

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8. Find the HCF of the numbers 276, 348 and 444.

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9. Define co-prime numbers. Write down three examples

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10. Write the greatest 4-digit number and express it in terms of its prime factors.

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Exercise Subjective Problems Long Answer Type

1. Find the LCM and HCF of 54, 108 and 288 by prime factorisation method.

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2. The floor of a room 9 mx 6.75 m is to be paved by square marble slabs. Find the maximum size of each slab,

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3. Replace the $ by the smallest number, so that (i) 78$964 may be divisible by 9. (ii) 75$ may be divisible by

4. (iii) 2$345 may be divisible by 3.

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4. Using properties of divisibility, check whether 1500 is divisible by 30? Also state the property used

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Exercise Subjective Problems Integer Numerical Value Type

1. What is the HCF of 12, 18, 21?

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2. What should be the last digit of the given number so that the number is divisible by 10?

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3. What is the smallest even composite number?

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4. If the nth multiple of 5 is 125. Find the value of n.

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5. Find the missing digit to make 156_9 divisible by 11?

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6. What is the product of the digits of the number which is 16 more than the HCF of 12 and 144?

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7. What will be the ones place digit of largest prime number less than 30?

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8. What should be the difference of two prime examples. numbers so that the pair is twin prime?

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9. What is the highest common prime factor of 66 and 121?

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Olympiad Hots Corner

1. Find the greatest number from the options that will divide 1025, 1299 and 1575 leaving remainders 5, 7 and 11 respectively.

A. 70

B. 78

C. 68

D. 98

Answer:

 Watch Video Solution

2. Consider the following statements : L. Every prime number is odd. II. Product of any two prime numbers is odd. Which of the given statement(s) is/are correct?

A. I only

B. II only

C. I and II

D. Neither I nor II

Answer:

Watch Video Solution

3. Number of primes between 16 to 80 and 90 to 100 is

A. 20

B. 18

C. 17

D. 16

Answer:

Watch Video Solution

4. Deepika has more than 30 stickers but less than 40 stickers. She can pack the stickers into packs of 2, 3 or 4

without leaving any sticker. How many stickers does she have?

A. 36

B. 37

C. 33

D. 39

Answer:

Watch Video Solution

5. Two ropes 16 m and 20 m long are to be cut into small pieces of equal lengths. What will be the

maximum length of each piece?

A. 5m

B. 4m

C. 7m

D. 10m

Answer:

Watch Video Solution

6. Select the incorrect statement.

A. The greatest number that exactly divides 63 and 84 is 21.

B. A factor of a number is an exact divisor of that number.

C. The smallest number that is exactly divisible by 12, 14, 18, 22 is 2.

D. A number divisible by two co-prime numbers is divisible by their product also.

Answer:

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7. Study the given statements carefully and select the correct option.

Statement-I: A natural number is divisible by 8, if the number formed by last three digits is divisible by 8.

Statement-II: 987648 is divisible by 8.

A. Both Statement-I and Statement-Il are true.

B. Both Statement-I and Statement-Il are false.

C. Statement-I is true but Statement-Il is false.

D. Statement-I is false but Statement-II is true.

Answer:

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8. If the product of two numbers is 1728 and their HCF is 12, then their LCM is___

A. 156

B. 144

C. 256

D. 172

Answer:

Watch Video Solution

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

A. 596348

B. 965864

C. 695844

D. 746936

Answer:

Watch Video Solution

10. In a colony of 100 blocks of flats numbering 1 to 100, a school van stops at every sixth block while a school bus stops at every tenth block. On which stops will both of them stop if they start from the entrance of the colony?

A. 5

B. 3

C. 15

D. 30

Answer:

Watch Video Solution

11. A number is always divisible by 180, if

A. It is divisible by both 45 and 2.

B. It is divisible by both 36 and 5.

C. It is divisible by both 18 and 30.

D. all of these

Answer:

Watch Video Solution

12. Study the given statements carefully. State T for true and 'F' for false and select the correct option.

(i) If a number is a factor of each of the given two numbers, then it must be factor of their a difference.

(ii) If a number is divisible by another number, then it must be divisible by each of the factors of that number.

(iii) If a number is divisible by another number, then it is also divisible by all the multiples of that number.

(iv)No prime number other than 2 is even but every odd number is necessarily a prime number.

A. T F T F

B. T T F F

C. F T F T

D. F F F F

Answer:

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13. If the number 517-324 is exactly divisible by 3, then the smallest whole number in place of -- will be

A. 0

B. 1

C. 2

D. 3

Answer:

Watch Video Solution

14. The HCF of an even number and an odd number is 1

(b) 2 (c) 0 (d) non-existant

A. 1

B. 0

C. 2

D. Can't say

Answer:

Watch Video Solution

15. The greatest number that exactly divides 105, 1001 and 2436 is (a) 3 (b) 7 (c) 11 (d) 21

A. 3

B. 7

C. 11

D. 21

Answer:

Watch Video Solution

16. Three bells ring at intervals of 30, 45 and 60 minutes respectively. If they begin ringing together at 5 p.m., then they will ring together again at___

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17. Study the statements carefully and select the correct option..

Statement I: Any number is divisible by 5, if the sum of the digits of the number is divisible by 5.

Statement II: Any number is divisible by 6, if it is divisible by either 2 or 3 or both 2 and 3.

A. Both Statement I and Statement Il are true.

B. Both Statement I and Statement Il are false.

C. Statement I is true but Statement Il is false.

D. Statement I is false and Statement II is true.

Answer:

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18. Find the least number which on adding 9 to it becomes exactly divisible by 15, 25, 30 and 45.

A. 410

B. 450

C. 380

D. 441

Answer:

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