



# MATHS

# **BOOKS - PEARSON IIT JEE FOUNDATION**

# **FACTORS AND MULTIPLES**



1. Find the factors of 12 and 14.

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2. Find the first five multiples of 5.

**3.** Write all the prime factors of the following.

(i)18 (ii)124

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**4.** Find the HCF of 12 and 56 by prime factorization method.

 $\mathsf{A.}\,2$ 

 $\mathsf{B.4}$ 

C. 3

D. 8

#### Answer: B

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**5.** Find the HCF of 120, 320 and 420.



6. Find the LCM of 12 and 15 by prime factorization method.

A. 30

B.40

**C**. 50

D. 60

#### Answer: D

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7. Find the LCM of 24 and 40

A. 100

 $B.\,110$ 

 $C.\,120$ 

D. 60

Answer: C

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**8.** LCM of two number is 378 and their HCF is 9. If one of the number is 63, then find the other number.

А. 74 В. 54

**C**. 44

 $\mathsf{D.}\,64$ 

#### Answer: B

9. Find the smallest number which is divisible by 18,15 and 12

A. 140

 $B.\,160$ 

**C**. 180

 $\mathsf{D}.\,190$ 

#### Answer: C

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Test Your Concepts Fill In The Blanks

1. The number of factors of 24 is \_\_\_\_\_

A. 7

B. 8

C. 6

#### Answer: B

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<b>2.</b> The greatest 2-digit multiple of 8 is
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<b>3.</b> The greatest common factor of 9 and 15 is
A. 1
B. 2
C. 4
D. 3
Answer: D



C. 57

D. 97

#### Answer: D



### 2. Which of the following is not a sphenic number ?

A. 30

B.42

C. 60

D. 70

#### Answer: C

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3. Which of the following is a composite number ?

A. 37	
B. 47	
C. 57	
D. 67	

#### Answer: C

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**4.** The HCF of which of the following pairs of composite number is different from that of the others ? (Odd man out )

A. 12,18

B. 24,30

C. 18,30

D. 18,45

Answer: D

**5.** Which of the following is the greatest measures that can be used to measure the quantities 68 m, 102 m and 119 m ?

A. 34

B. 51

C. 13

D. 17

#### Answer: D

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Test Your Concepts Match The Column

### 1. Match the following Column A to Column B

1150	Column A		A mail	S.	Column B
(a)	Prime number	(	)	(p)	Divisible by only three prime numbers.
(b)	Sphenic number	(	)	(q)	'2' must be its factor.
(c)	Composite number	(	)	(r)	It has at least three factors.
(d)	Even number	(	( )	(s)	It has only two factors.

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Test Your Concepts Fill In The Blanks

1. The number of common multiples of 6 and 15 is \_\_\_\_\_

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2. The least common multiple of two co-primes is \_\_\_\_\_



Test Your Concepts Select Correct Alternative

**1.** The LCM of a and b is 220. Which of the following can be the HCF of a and b.?

A. 33

B. 15

C. 20

D. 12

#### Answer: C

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### 2. Which of the following pairs of numbers have their LCM 144

A. 18,36

B. 16,96

C. 24,48

D. 9,16

Answer: D
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<b>3.</b> The HCF of the two numbers a and b is 12. Which of the following can
be the LCM of a and b ?
A. 44
B. 65
C. 76
D. 96
Answer: D
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4. Which of the following is divisible by 8,15 and 6?

A. 60

B. 96

C. 180

D. 240

Answer: D

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5. Which of the following is not divisible by 9?

A. 345672

B. 278901

C. 46938

D. 96435

Answer: C



6. Which of the following is divisible by 8?

A. 7248882

B.836486

C.92304

D. 726436

Answer: C

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Test Your Concepts Match The Column

#### 1. Match the following Column A to Column B

	Column A				Cal	umn B
(a)	6, 8, 12	(	)	<i>(</i> <b>p</b> <i>)</i>	72	\$
(b)	8, 12, 18	(	)	(q)	180	
(c)	12, 18, 30	(	)	(r)	288	
(d)	18, 24, 32	(	)	(s)	24	

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Short Answer Type Question

**1.** List out all the common factors of the following pairs of numbers.

(a) 120 and 160 (b)52 and 32



**2.** List out all the 2-digit prime numbers which are greater than 50.

**3.** Express the following as the product of prime numbers.

(a) 36 (b)75

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4. List out all the 2-digit twin primes.

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5. Find the HCF of the following numbers by prime factorization method.

(a)24,60 (b)48,64,80



6. Find the HCF of 72,140,256 by division method.

7. Find the greatest number that divides 160,264 leaving a remainder 4 in

each case.

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**8.** Find the greatest number that divides 80 and 115 leaving remainder 8 and 7 respectively.

A. 34 B. 38 C. 31

D. 36

#### Answer: D

**9.** On her birthday, Jyothsna received three different cakes of weight 3kg, 2.6 kg and 2kg from her father, mother and sister respectively. She cut the three cakes into pieces of equal weights with out any remainder. Find the minimum number of pieces that she can get from the three cakes.

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**10.** Find the LCM of 30,75 and 120 by prime factorization method.

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11. Find the LCM of 48, 60 and 280 by synthetic division method.



**12.** The product of two number is 1680 and the LCM of two number is 420.

Find their HCF.





16. Find the greatest 3-digit number which is common multiple of 6,15 and

21.

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**17.** Risthita and Lohitha are twins. They play a game, in which they open a page of a text book printed in English. From the first letter of the page. Risthita strike every 18th letter. If they strike the same letter 17 times in the page, then find the minimum number of letters in the page seme letter 17 times in the page, then find the minimum number of letters in the page selected.

## View Text Solution

**18.** Bhavagna celebrates her birthday every year. The number of chocolates that she distributes every year is the greatest 3- digit common multiple of all the prime factors of the number representing that year. How many chocolates should bhavagna distribute in the year 2016 ?

**Concept Application** 

**1.** There are three empty drums which can hold 384 litres, 576 litres and and 288 litres of water. Each of them is to be filled by using a measuring jar, a whole number of times. What is the largest possible capacity of the measuring jar with which we can fill all the three drums ?

A. 96 litre

B. 24 litres

C. 72 litres

D. 36 litres

#### Answer: A

**2.** The dimensions of a hall are 6048 cm  $\times$  2440 cm. What is the minimum number of identical square shaped tiles is required to furnish the hall ?

A. 230580

B. 1061

C. 1240

D. 2320

Answer: A

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**3.** A father gave equal amount of money to his three daughter Simron, Cinderella and Sreya to purchase some items for his birthday party. Simron brought puffs which cost Rs. 18 each, Cinderella bought cake which cost Rs.24 each and Sreya bought cool drinks which cost Rs. 30 each. If they spent their money completely on these items, then find the minimum number of cakes that Cinderella bought.

A. 12 B. 16 C. 24

D. 15

#### Answer: B

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**4.** Miss Sumitha has three drumsticks in her kitchen which are 72 cm ,90 cm and 84 cm, respectively. She wanted to cut them into equal size of pieces. Find the minimum number of pieces that she can cut.

A. 41

B. 58

C. 48

#### Answer: B

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**5.** There are 72 green colour, 144 red colour and 234 organe colour chairs in an auditorium. A boy want to put the chairs in rows such that each row is of the same coloured chairs and the number of chairs is equal in each row. Find the minimum number of rows of chairs in the auditorium.

A. 30

B. 25

C. 15

D. 45

Answer: D



**1.** List out all the common factor of 64 and 96.

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<b>2.</b> Write all the common prime factors of 720 nad 140.
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<b>3.</b> Find the HCF of 126 and 144 by prime factorization method.
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<b>4.</b> Find the HCF of 84 and 112 by division method.
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**5.** Find the least common multiple of 8,15 and 20 by prime factorization method.

A. 120

B. 200

C. 60

D. 240

#### Answer: A

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6. Find the least common multiple of 24, 40 and 60 by synthetic division.

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7. The LCM of two numbers is 112 and their HCF is 2. If one of the number

is 14, then find the other number.

**8.** A number P is divisible by 5,4,8 and 9. If p is a 3-digit number, then find all the possible values for P.

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**9.** Aakruthi and Prakruthi are playing skipping-rope. Aakruthi skips 30 times in a minute and Prakruthi skips 20 times in a minute. Both of them start skiping at 4.50 p.m. and continue till 5 p.m. without any interruption. How many times do they skip the rope simultaneously after 4.50 p.m. ?

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**10.** Write the first three multiples of 48.



13. Which of the following numbers are divisible by 5,55,556,50058,85501?

#### 14. Is 199a prime number ?

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**15.** Two bags of sugar contain 26 and 39 kg of sugar, respectively. What is the greatest weight that can be used to measure the weight in each bag an exact number of times ? How many times will it take to weight all the sugar in the two bags using this weight ?

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Crossword

	222		Carlos and	1	2000	-		1	
		2							
			1						
3	1236					1999			201
4							5		10000
	12.74		1000		132	1200			
					1			1.522	6
		1.1.5			7	12.2		1.2.2.3	
		1995		8	1			1000	
100	1.1				-	1000	1000		
		13.0		-				-	
		1	0		-	10		-	-
	-	-	-		-	1.0		-	-
		1	1200	-	-	-	-	-	
11			1500	3 5 3			1000	1 24	100

# 1.

Across	Down
4. The natural having more than two factors	1. The num
8. The units digit of an odd number which is divisible by 5 $ $	2. The natu
9. The number of common factors of co-primes other than 1 $ $	3. The grea
11. All the even numbers are divisible by	5. The min
	6. The leas
	7. A numb

10. The HC