MATHS

BOOKS - PEARSON IIT JEE FOUNDATION

NUMBER SYSTEM

Example

1. Find the HCF and the LCM of 300, 360, 600.

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2. Compare $\dfrac{2}{5}$ and $\dfrac{3}{7}$

▶ **Watch Video Solution**

3. Compare $\dfrac{5}{6}$ and $\dfrac{7}{9}$

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4. In a class, there are 60 students. One third of them are girls. How many girls are there in the class?

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5. Suppose your father has brought a big of chocolates. He divided it into two equal pieces and gave one piece to you. You wanted to share it with two your friends. You divided your piece of chocolate into three equal piece. How much did each of you get?

6. a. Divide 8.4 by 4.

b. Divide 36.48 by 7.

7. a. Divide 23.4 by 10

b. Divide 23.4 by 100.

8. A fruit vendor purchased 125 oranges for Rs. 165. Find the cost of one orange.

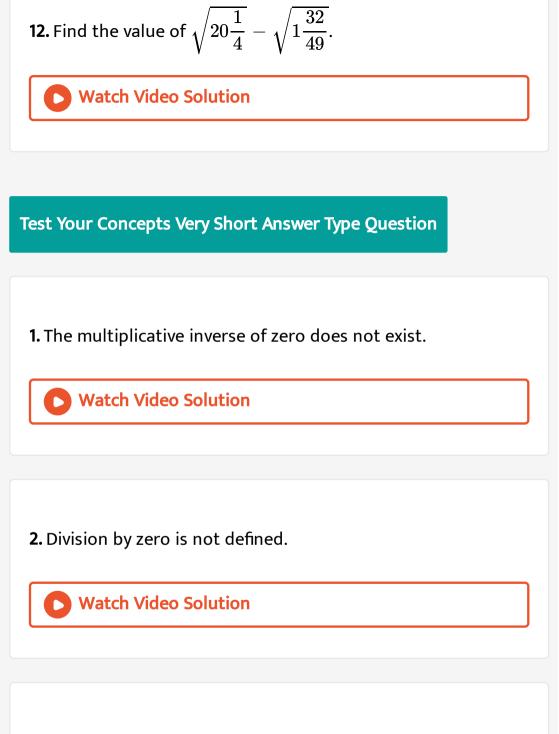**9.** Express $2.3\overline{45}$ in the form of p/q where p and q are coprimes.

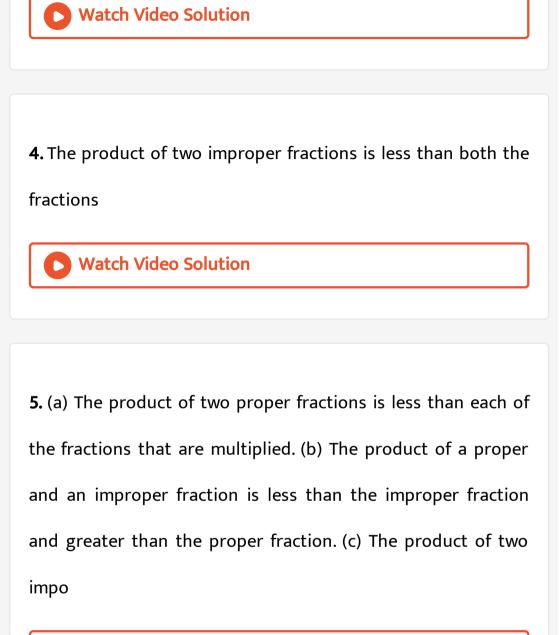▶ **Watch Video Solution**

10. Find the cube root of 216.

▶ **Watch Video Solution**

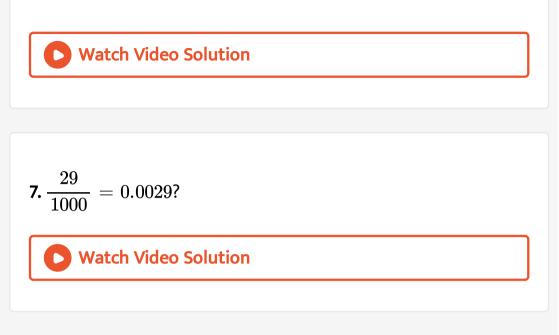**11.** What is the least positive integer by which 50 should be multiplied so that the product is a perfect square?

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12. Find the value of $\sqrt{20\frac{1}{4}} - \sqrt{1\frac{32}{49}}$.

1. The multiplicative inverse of zero does not exist.

2. Division by zero is not defined.

3. Multiplication is not commutative for integers.

4. The product of two improper fractions is less than both the fractions

5. (a) The product of two proper fractions is less than each of the fractions that are multiplied. (b) The product of a proper and an improper fraction is less than the improper fraction and greater than the proper fraction. (c) The product of two impo

6. $2.3458 \times 1000 = 234.58$

7. $\dfrac{29}{1000} = 0.0029$?

8. Every irrational number can be expressed on the number line. This statement is

9. The square root of a negative number is irrational.

10. What is the additive identity element in the set of whole numbers? 0 (b) -1 (c) 1 (d) None of these

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11. A fraction in which the numebrator is greater than the denominator is called_____.

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12. Mixed fraction a combination of a whole number and a proper fraction is called a mixed fraction.

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13. The product of two proper fractions is always _____fraction.

14. $0.2 \times 0.3 =$ _ _ _ _ _ _ _

15. The decimal form of a proper fraction whose denominator is a multiple of 3 is a _____decimal.

16. $.999999.........=$ _____

17. Non repeating and non terminating decimals are called_____.

18. Given, $\sqrt{2} = 1.414$ and $\sqrt{6} = 2.449,$ find the value of $\dfrac{1}{\sqrt{3} - \sqrt{2} - 1}$ correct to 3 places of decimal.

19. If $\sqrt{2} = 1.414,$ find the value of $\sqrt{3} + \sqrt{6}$ upto three place of decimals.

20. What is the multiplicative identity element in the set of whole numbers?

A. 0

B. -1

C. 1

D. 2

Answer: C

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21. Natural numbers are closed under subtraction.

A. N

B. Z

C. Q

D. R

Answer: A

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22. What do you call two fractions, whose product is 1?

A. Additive inverse to each other

B. Multiplicative inverse to each other

C. Reciprocals to each other

D. Both b and c

Answer: D

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23. Period of the decimal 2.3636363.........is _____

A. 2

B. 3

C. 36

D. 63

Answer: C

24. Periodicity of $981.7\overline{836}$ is ___

A. 8

B. 836

C. 3

D. 6

Answer: C

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25. What is the smallest positive irrational number?

A. $\sqrt{2}$

B. $\sqrt{3}$

C. $\sqrt{\dfrac{1}{2}}$

D. Not defined

Answer: D

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26. The additive identity element in the set of integers is 1 (b)

-1 (c) 0 (d) none of these

A. 0

B. 1

C. -1

D. 2

Answer: B

27. Find the HCF of 17 and 19.

A. 1

B. 2

C. 17

D. 19

Answer: A

28. $\sqrt{225} + \sqrt[3]{\dfrac{1}{64}} =$ _____

A. $15\dfrac{1}{4}$

B. $15\dfrac{1}{8}$

C. $15\dfrac{1}{2}$

D. $15\dfrac{1}{16}$

Answer: A

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29. The LCM of two numbers is 30 and the product of two numbers is 150. Find the HCF

A. 3

B. 5

C. 10

D. 15

Answer: B

30. If $m = (-1)^{2000}$ an $n = (-1)^{2002}$, then find the value of $\dfrac{m}{n}$.

A. -1

B. 1

C. 2000

D. 2002

Answer: B

1. Arrange the following decimal numbers in the ascending order.

0.52314, 0.52313, 0.53201 and 0.52321

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2. Find the product of $3\frac{1}{7} \times 1\frac{5}{6} \times 1\frac{2}{5} \times 1\frac{1}{11}$

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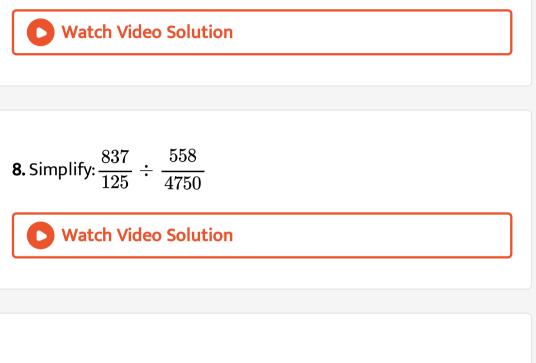**3.** Convert the following terminating decimals as fractions

2.3675

4. Convert the following terminating decimals as fractions

54.26

5. Convert the following terminating decimals as fractions

75.35

6. Convert the following terminating decimals as fractions

0.7575

7. Simplify: $22.308 \div 7.436$

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8. Simplify: $\dfrac{837}{125} \div \dfrac{558}{4750}$

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9. Add the following rational numbers.

$\dfrac{3}{10}, \dfrac{0.4}{100}, \dfrac{-21}{1000}, \dfrac{7}{10000}$

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10. Which of the following fractions are recurring decimals?

$$\frac{237}{625}$$

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11. Find the value of 30.32×4.5

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12. Convert the following improper fractions into mixed fractions.

$23/12$

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13. Convert the following improper fractions into mixed fractions.

$37/8$

▶ **Watch Video Solution**

14. Convert the following improper fractions into mixed fractions.

$108/52$

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15. Find the HCF and the LCM for the following sets of numbers

$24,36$

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16. Find the HCF and the LCM for the following sets of numbers

16,20,48

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17. Find the HCF and the LCM for the following sets of numbers
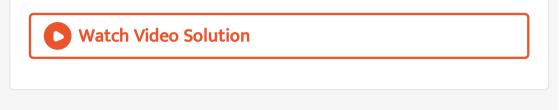
25,35,40

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18. The LCM and the HCF of two numbers are 625 and 5, respectively. Find the product of the two numbers.

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19. Convert the following decimals into $\dfrac{p}{q}$ form. $(p, q \in Z)$

2.345

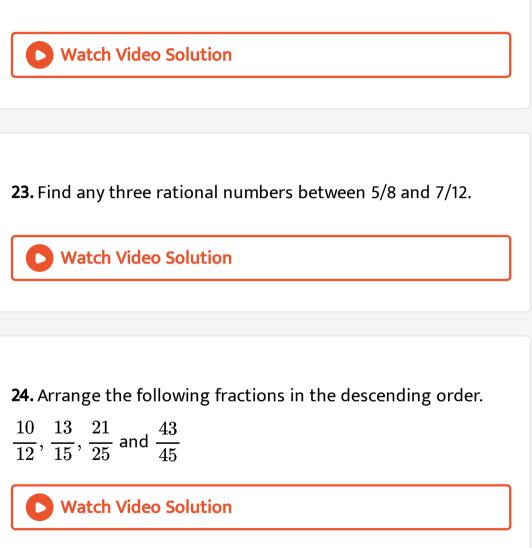**20.** Convert the following decimals into p/q form. $(p, q \in Z)$

35.2

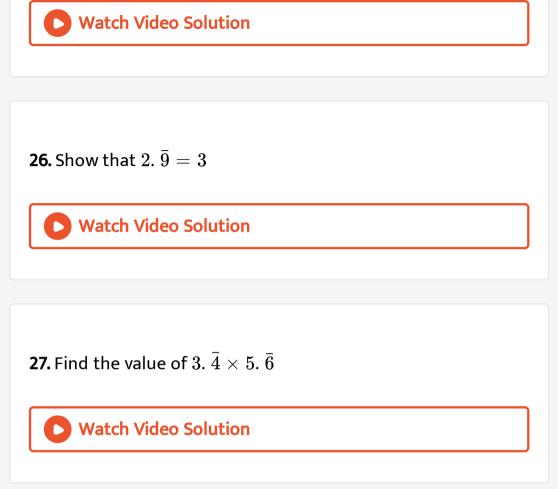**21.** Convert the following decimals into p/q form. $(p, q \in Z)$

$281.\overline{31}$

22. Convert the following decimals into p/q form.

$108.\overline{001}$

23. Find any three rational numbers between 5/8 and 7/12.

24. Arrange the following fractions in the descending order.

$\dfrac{10}{12}, \dfrac{13}{15}, \dfrac{21}{25}$ and $\dfrac{43}{45}$

25. Find the difference between 3.47777. and 2.8588.....

26. Show that $2.\overline{9} = 3$

27. Find the value of $3.\overline{4} \times 5.\overline{6}$

28. The LCM ad the HCF of two numbers are 48 and 8, repectively. If one of the numbers is 24, then find the other number.

29. Find the least positive integer that should be multiplied to 720 so that the product obtained is a perfect square.

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30. Krishna covers a certain distance in 150 min. He covers half of the distance in 4/15 of the time. Find the time taken to cover the remining distance.

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31. A family requires 2.2 L of milk every day. Find the total quantity of milk required in a mouth of 31 days.

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32. As is the small four digit number formed by using all the digits 0,1,2, and 3. B is the greatest four digit number formed by using all the digits 0, 1,2 and 3. Find B-A.

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33. Find the greatest number that can divide 76 and 60 leaving remainders of 4 and 6, respectively.

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34. Simplify: 35.4747............-27.1414..............

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35. Simplify: $\sqrt{2\dfrac{14}{25}} - \sqrt{1\dfrac{7}{9}}$

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36. Simplify: $\sqrt{2.42} \times \sqrt{2.88}$

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Test Your Concepts Essay Type Question

1. Find the least three digit number which when divided by 20, 30, 40 and 50 leaves remainder 10 in each case.

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2. Evaluate $\sqrt{3}$ correct up to two places of decimal.

3. In a class there are 72 boys and 64 girls. If the class is to be divided into least number of groups such that each group contains either only boys or only girls, then how many groups will be formed ?

A. 17

B. 34

C. 24

D. none of the above

Answer: A

4. Find the largest number that divides 59 and 54 leaving remainders 3 and 5 respectively.

5. Three bells toll at intervals of 12 min, 24 min and 9 min respectively. If they toll togather at 11.00 a.m. then find the time at whcih they toll togather again for the first time.

The Following are the steps involved in solving the above problem. Arrange them in the sequential order.

(A) We know that the three bells toll togather at the multiples of LCM of 12 min, 24 min and 9 min.

(B) After 11 a.m. they toll togather at (11 a.m.+ 72 min) i.e., 12.12 p.m.

(C) THe LCM of 12, 24 and 9 is 72.

(D) Therefore, all the three bells toll togather for every 72 min.

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6. A man purchased a plot which is in the shape of a square .The area of the plot is 12 hectares 3201 m^2 .Find the length of each side of the plot (in m)`

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7. Find the divisor given that the dividend is 2200 remainder is 13 the divisor is one third of the quotient

A. 29

B. 17

C. 27

D. 28

Answer: C

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8. A certain number of men went to a hotel .Each man spent as mamy rupee as one fourth of the men.If the total bill paid was Rs 20449 then how many men visited the hotel?

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9. Find the value of $3\sqrt{288} \times 3\sqrt{432} \times 3\sqrt{648}$

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10. Volume of a cube is given by the formula $V = s^3$, where s is the length of the side. Find the side of the cube if its volume is 10.648 cubic units.

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Concept Application Level 1

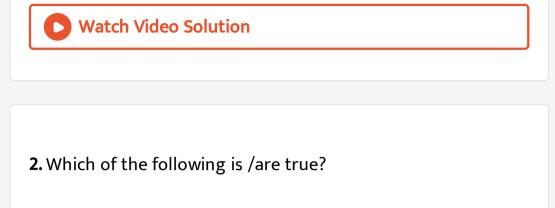**1.** What is the additive identity element in the set of whole numbers? 0 (b) -1 (c) 1 (d) None of these

A. 0

B. 1

C. -1

D. 2

Answer: A

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2. Which of the following is /are true?

A. $\sqrt{6} \times \sqrt{6}$ is an irrational number.

B. $\sqrt{5} \times \sqrt{25}$ is a rational number.

C. Both a and b

D. Neither a nor b

Answer: B

3. M an N are two coprimes. Which of the following is/are true?

A. LCM (M,N)=$M \times N$

B. HCF(MltN)=1

C. Both a and b

D. Neither a nor b

Answer: C

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4. If $a = (-1)^{2009}$ and $b = (-1)^{2010}$, then find the value of ab.

A. 1

B. -1

C. 2009

D. 2010

Answer: B

5. $\sqrt{X}$ is a perfect square. Which of the following is/are true?

A. X is a perfect square.

B. X^2 is a perfect square

C. Neighte a nor b

D. Both a and b

Answer: D

6. $\sqrt[3]{\dfrac{125}{216}} - \sqrt{\dfrac{25}{36}} = $ _____

A. 44322

B. 44202

C. 0

D. 1

Answer: C

7. The HCF of two numbers is 6 and the product of two numbersis 360. Find theLCM of the numbers

A. 60

B. 30

C. 12

D. 6

Answer: A

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8. If M and N are two natural numbers, then $\dfrac{LCM(M, N)}{HCF(M, N)}$ is

_____

A. a natural number

B. a rational number which is not necessarily an integer

C. a real number which is not necessarily an integer

D. an irrational number.

Answer: A

9. X is the smallest four -digit number formed by all the digit

0,1,2 and 3. Find X.

A. 123

B. 1023

C. 1000

D. 102

Answer: B

10. Find the least natural number which when divided by 6,9, 12 and 18 leaves no remainders.

    A. 36

    B. 72

    C. 12

    D. 18

Answer: A

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11. If $r^3 = 1728$ then find r

    A. 12

B. 14

C. 16

D. 18

Answer: A

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12. If two numbers are equal, then their LCM is equal to their HCF their LCM is less than their HCF their LCM is equal to two times their HCF None of these

    A. Their LCM is equal to their HCF

    B. Their LCM is less than their HCF

    C. Their LCM is equal to two times their HCF.

D. Thei LCM is not equal to their HCF.

Answer: A

13. X is the perfect square. Which of the following is necessarily true?

A. X^2 is a perfect square.

B. $\sqrt{X}$ is a perfect square

C. Both a and b

D. Neither a nor b

Answer: A

14. The following are the steps inolved in converting $0.\overline{23}$ into p/q form where $q \neq 0$. Arrange them in sequential order from the first to the last.

A. $\therefore 100x = 23.232323$ 2

B.As periodicity is 2, multiply the Eq. 2 with 100.

C. $\therefore 99x = 23 \Rightarrow x = \dfrac{23}{99}$

D. Let $x = 0.\overline{23} = 0.232323$.........1

E. Subtract Eq. 1 from Eq 2

    A. DBEAC

    B. DBAEC

    C. DBCAE

    D. DABEC

Answer: B

15. The following are the steps involved in finding the positive value of x from the equationn $x^2 = 12.96$

Arrange them in sequential order from the first to the last.

A. $x^2 = \dfrac{(36)^2}{10^2}$

B. $\therefore x = 3.6$

C. $x^2 = 12.96 = \dfrac{1296}{100}$

D. $x = \dfrac{36}{10}$

A. CDAB

B. CABD

C. CADB

D. CDBA

Answer: C

16. Find the positive value of x from the equation $x^2 = \dfrac{8.1}{36.1}$

17. The following are the steps involved in converting $1.\overline{52}$ into p/q form where $q \neq 0$. Arrange them in sequential order from the first to last.

A. $\therefore 10x = 15.2222.......2$

B. Let $x = 1.\overline{52} = 1.52222........1$

c. $9x = 13.7 \Rightarrow x = \dfrac{13.7}{9} = \dfrac{137}{90}$

D. As periodicity is 1 multiply the Eq (1) with 10.

E. Subtract Eq. 1 from the Eq. 2
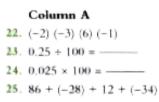
A. BDAEC

B. DBAEC

C. DBCEA

D. BDCEA

Answer: A

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18. Match Column A with Column B.

Column A	Column B
18. $(-22) + 21 + (-22) + 21 +$	(a) 75.6
-------(40 terms) = ———	
19. $0.756 \times 100 =$ ———	(b) 20
20. $75.6 \div 10 =$ ———	(c) -1
21. $(9)\ (-1/3)\ (-3)\ (-1/9) =$	(d) 1
———	
	(e) -20
	(f) 7.56

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19. Match Column A with Column B.

Column A	Column B
22. $(-2)\ (-3)\ (6)\ (-1)$	(a) 2.5
23. $0.25 \div 100 =$ ———	(b) 36
24. $0.025 \times 100 =$ ———	(c) -36
25. $86 + (-28) + 12 + (-34)$	(d) 0.0025

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1. If the sum of two integers is -26 and one of them is 14, then find the other integer.

    A. -12

    B. 12

    C. -40

    D. 40

Answer: C

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2. Which of the following pairs of integers have 5 as a difference? 10, 5 (b) $-10, \ -5$ 15, -20 (d) both (a) and (b)

A. 10,5

B. $-10, \ -5$

C. $15, \ -20$

D. both a and b

Answer: D

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3. If the product of two integers is 72 and one of them is -9 , then the other integer is -8 (b) 8 (c) 81 (d) 63

A. 8

B. -8

C. 81

D. 63

Answer: B

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4. Simplify: $29 \times 76 - 71 \times 29$

A. 148

B. 147

C. 146

D. 145

Answer: D

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5. If A travels three fifth of a certain distance on a day and the rest the next day then what part of the distance he travels on the second day?

A. 44260

B. 44232

C. 44201

D. 44291

Answer: B

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6. If the lengths of two poles P_1 and P_2 are 26.79 m and 29.34m, respectively, then how much longer is P_2 than P_1?

A. 2.45m

B. 2.35m

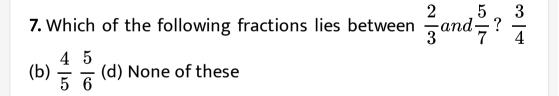C. 2.55m

D. 2.65m

Answer: C

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7. Which of the following fractions lies between $\frac{2}{3} and \frac{5}{7}$? $\frac{3}{4}$
(b) $\frac{4}{5}$ $\frac{5}{6}$ (d) None of these

A. 44259

B. 44291

C. 44322

D. 44293

Answer: D

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8. Find the greatest number that exactly divides 81, 144, and 162.

A. 9

B. 27

C. 3

D. 81

Answer: A

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9. Find the least number which when divided by 24, 36 and 48

leaves zero as its remainder.

A. 124

B. 144

C. 164

D. 224

Answer: B

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10. If $p = (-1)^{205}$ and $q = (-1)^{202}$, then $p + q$ is

A. $(-1)^{407}$

B. $(-1)^4$

C. 0

D. -2

Answer: C

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11. $\sqrt[3]{\dfrac{27}{125}} + \sqrt{\dfrac{4}{25}} = $ ....

A. 4

B. 3

C. 2

D. 1

Answer: D

---

12. Which of the following is true?

A. $(a + b)^2 = a^2 + b^2 + ab$

B. $\sqrt{a}. \sqrt{b} = \sqrt{ab}$

C. $\sqrt{a} - \sqrt{b} = \sqrt{a - b}$

D. $(a - b)(a + b) = a^2 + b^2$

Answer: B

13. The period of the decimal number $10.23\overline{46}$ is

_____.

A. 23

B. 46

C. 10

D. 1023

Answer: B

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14. Recurring: pure recurring and mixed recurring decimals and its conversion

A. 44199

B. 44234

C. 44200

D. Both a and b

Answer: D

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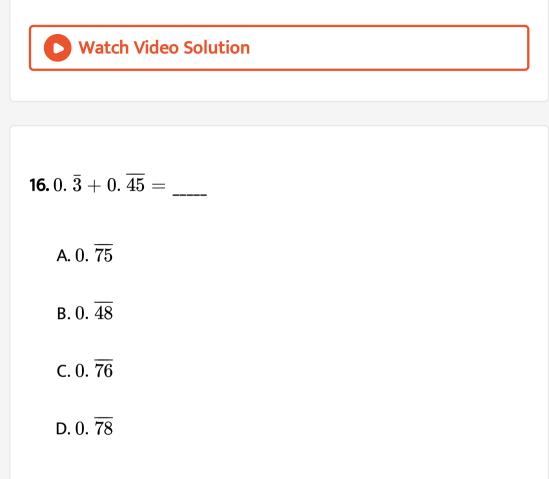**15.** If $x = \sqrt{3}$, $y = \sqrt{27}$ and $z = \sqrt{243}$, then which of the following is/are rational numbers?

A. xy

B. xz

C. yz

D. All of these

Answer: D

16. $0.\overline{3} + 0.\overline{45} =$ _____

A. $0.\overline{75}$

B. $0.\overline{48}$

C. $0.\overline{76}$

D. $0.\overline{78}$

Answer: D

17. If $\begin{vmatrix} p & -q & 0 \\ 0 & p & q \\ q & 0 & p \end{vmatrix} = 0$, then which one of the following is

correct ?

A. $0.\,\overline{011}$

B. $0.00\overline{1}$

C. $0.0\overline{01}$

D. $0.\,\overline{001}$

Answer: C

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18. $\sqrt{1\dfrac{9}{16}} - \sqrt{1\dfrac{7}{9}} = $ _____

A. 44208

B. 44230

C. $-\dfrac{1}{12}$

D. $-2/3$

Answer: C

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19. $\sqrt{3.38} \times \sqrt{3.92} =$ ___

A. 1.82

B. 1.72

C. 3.64

D. 3.44

Answer: C

20. Find the difference between the greatest and the smallest four-digit numbers formed by using all the digits 8, 6, 7 and 4.

A. 9081

B. 27.81

C. 27.77

D. 18.9

Answer: B

21. $\sqrt{6.05} \times \sqrt{8.45} =$ _____

A. 6.95

B. 7.35

C. 7.55

D. 7.15

Answer: D

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22. Find the greatest number that can divide 101 and 115 leaving remainders 5 and 7 respectively.

A. 6

B. 9

C. 12

D. 18

Answer: C

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23. In a school, the number of students in each section is equal to the number of sections. If the total number of students is 625, then find the numbr of sections

A. 10

B. 20

C. 15

D. 25

Answer: D

Concept Application Level 3

1. Arrange 3/4,9/13,12/17 and 1/2 in the ascending order.

    A. 1/2,9/13,3/4,12/17

    B. 3/4,9/13,1/2,12/17

    C. 1/2,3/4,9/13,12/17

    D. 1/2,9/13,12/17,3/4

Answer: D

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2. The smallest of the fractions $\frac{2}{3}, \frac{4}{7}, \frac{8}{11}$ and $\frac{5}{9}$ is $\frac{2}{3}$ (b) $\frac{4}{7}$ $\frac{8}{11}$ (d) $\frac{5}{9}$

A. $\frac{2}{3}$

B. $\frac{4}{7}$

C. $\frac{8}{11}$

D. $\frac{5}{9}$

Answer: D

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3. A,B, and C shared a total of Rs. 6024. Share of A is one-third of the total money and share of B is half of the total money. Find the share of C.

A. Rs. 1004

B. Rs. 104

C. Rs. 208

D. Rs. 2008

Answer: A

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4. The average weight of each student of a class is $323/4$kg. If there are 24 students in the class, then find the total weight of the class.

A. 768kg

B. 786kg

C. 867kg

D. 876kg

Answer: B

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5. The HCF and the LCM of two numbers are 24 and 1008. If one of the numbers is 168, then find the other number

A. 336

B. 252

C. 148

D. 144

Answer: D

6. Find the greatest number that can divide 246 and 279 by leaving remainders 2 and 3, respectively.

A. 4

B. 40

C. 6

D. 60

Answer: A

7. Find the greatest possible quantity which can be used to measure exactly the quantities 3L 250mL, 3L 500 mL and 4L

    A. 25mL

    B. 125mL

    C. 250mL

    D. 500mL

Answer: C

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8. What is the least positive integer by which 4500 should be divided so that the quotient is a perfect cube?

    A. 6

B. 36

C. 2

D. 3

Answer: B

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9. A total of 1152 students were assembled in rows and colums. If there are n rows and n/2 columns,then find the number of students in each row.

A. 36

B. 42

C. 48

D. 34

Answer: C

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10. The LCM of two numbers is 26, then which of the following can be their HCF?

A. 1

B. 2

C. 13

D. All of these

Answer: D

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11. In a computer game if we hit a balloon we get 500 points, and if we miss the balloon, we lose 300 points. Raj hits 20 balloons and misses 40 balloons. Find his net score.

A. 2000

B. -2000

C. 1000

D. -1000

Answer: B

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12. Krishna purchased 20 pencils for his two sons Akhil and Nikhil. Akhil took two fifth of the total number of these penscils and Nikhil took the remining pencils. Find the number of pencils taken by Nikhil.

A. 8

B. 12

C. 6

D. 14

Answer: B

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13. If $x = (-23) + 22 + (-23) + 22\ldots\ldots\ldots\ldots$ (40 terms) and $y = 11 + (-10) + 11 + (-10) + \ldots\ldots$ (20 terms) then $y - x$ is _____.

A. 40

B. 10

C. 20

D. 30

Answer: D

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14. Ram went to a shop to purchase an article. But he had an amount which is equal to [13/27] of the cost of the article.If the

cost of article was Rs. 540 then find the amount with him.

A. Rs. 240

B. Rs. 250

C. Rs. 260

D. Rs. 270

Answer: C

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15. If x and y are the smallest and the greatest four digit numbers formed by using 1,3,5 and 9, then find y-x.

A. 5940

B. 8172

C. 3600

D. 6336

Answer: B

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16. If $x = (-1)^1 + (-1)^2 + \ldots + (-1)^{2009}$ and

$Y = (-1)^1 - (-1)^2 + (-1)^3 - (-1)^4 + \ldots + (-1)^{2009}$

, then find x-y

A. 2009

B. 2008

C. 0

D. 1004

Answer: B

17. Raj went to a market to buy a radio. But he had an amount which is equal to $\left[\dfrac{15}{28}\right]$ of the cost of the radio. If the cost of the raio is Rs. 560 then find the amount with him

    A. Rs. 280

    B. Rs. 300

    C. Rs. 240

    D. Rs. 320

Answer: B

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1. Find the smallest number by which 2592 should be divided so that the quotient is a perfect cube The folloiwng are the steps involved in solving the above problem .Arrange them in sequential order

(A) On prime factorisation 2592 $=2^5 \times 3^4$

(B) 2592 should be divided by 12 so that the quotient is a perfect cube

(C) Now 2592 $=(6)^3 \times 12$

   A. BCDAE

   B. CBADE

   C. BCAED

   D. CBDAE

Answer: B

---

2. Find the number of subsets of $A \times B$, if n(A)=2 and n(B)=4

The following are the steps involved in solving the above problem. Arrange them in sequential order (A) The number of elemetns in $A \times B$ is $4 \times 2 = 8$.

(B) The number of subsets of a set with n elements $=2^n$

(C) Given $n(A) = 2$ and $n(B) = 4$.

(D) $\therefore$ Required number of subsets is $2^8 = 256$.

A. CABD

B. BCAD

C. BCDA

D. CBAD

Answer: A

---

3. The area of a square field isd $1444m^2$. Find the cost of fencing the field at the rate of $Rs. 5$ per metre.

    A. $Rs. 760$

    B. $Rs. 720$

    C. $Rs. 680$

    D. $Rs. 640$

Answer: A

4. What is the leat natural number that should be added to the result of 88×89, so that the sum obtained is a perfect square?

A. 1

B. 8

C. 88

D. 89

Answer: D

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5. Find the least number which when divided by 5,7 and 8 leaves 3 as the remainder in each case.

A. 283

B. 78

C. 578

D. 57

Answer: A

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6. $2.\bar{3} + 3.\bar{4} - 4.\bar{8} = $ _____

A. $0.\bar{7}$

B. $1.\bar{2}$

C. $0.\bar{8}$

D. $1.\bar{9}$

Answer: C

---

7. Find the value of $\sqrt[3]{27} \times \sqrt[3]{216} \times \sqrt[3]{64}$.

A. 24

B. 45

C. 72

D. 96

Answer: C

8. Find the largest number that divides 92 and 75 and leave the remainders 2 and 5, respectively.

A. 10

B. 15

C. 25

D. 30

Answer: A

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9. In a game, if we hit a balloon, we get 300 points and if we miss the balloon, we lose 100 points. Raj hits 15 balloons and misses 40 balloons. Find his net score.

A. 500

B. 400

C. 300

D. 200

Answer: A

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10. The LCM of two numbers is 420. Which of the following cannot be the HCF of the two numberS?

A. 70

B. 60

C. 210

D. 80

Answer: D

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11. Which of the following fractions represent a non terminating decimal?

A. $\dfrac{63}{24}$

B. $\dfrac{18}{15}$

C. $\dfrac{14}{21}$

D. $\dfrac{33}{44}$

Answer: C

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12. Match Column A with Column B.

Column A

12. The period of $3.5\overline{31}$ is a

13. $\dfrac{51}{96}$ can be expressed as a

14. $\dfrac{5}{24}$ can be expressed as a

15. $3.101100111000111100011111...$ is

Column B

(a) Terminating decimal

(b) Non-terminating and repeating decimal

(c) 31

(d) Non-terminating and non-repeating decimal

(e) 2

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13. Find the smallest number by which 2592 should be divided so that the quotient is a perfect cube The folloiwng are the steps involved in solving the above problem .Arrange them in sequential order

(A) On prime factorisation 2592 $= 2^5 \times 3^4$

(B) 2592 should be divided by 12 so that the quotient is a

perfect cube

(C) Now $2592 = (6)^3 \times 12$

A. BCDA

B. ABCD

C. BADC

D. BCAD

Answer: D

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14. Convert $2.\overline{45}$ into $\dfrac{p}{q}$ form, where p and q are coprimes.

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15. The are of a square field of $1681m^2$. Find the cost of fencing the field at the rate of Rs. 3 per metre

A. Rs. 672

B. Rs. 564

C. Rs. 492

D. Rs. 372

Answer: C

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16. What is the least natural number that should be added to the product of 30 and 31 so that the sum obtained is a perfect square?

A. 10

B. 3

C. 30

D. 31

Answer: D

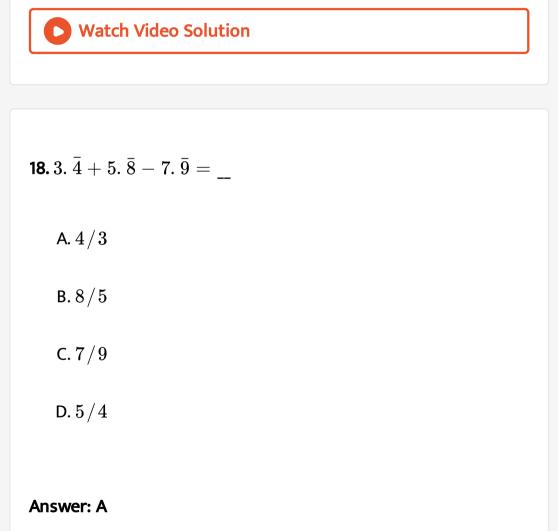**17.** Find the least number which when divided by 9, 12 and 15, leaves 5 as the remainder in each case.

A. 180

B. 50

C. 185

D. 77

Answer: C

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18. $3.\overline{4} + 5.\overline{8} - 7.\overline{9} = $ __

A. $4/3$

B. $8/5$

C. $7/9$

D. $5/4$

Answer: A

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19. Find the values of $\sqrt[3]{512} + \sqrt[3]{343} + \sqrt[3]{729}$

A. 26

B. 24

C. 56

D. 48

Answer: B

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20. The largest number that divides 64 and 72 and leave the remainders 12 and 7 respectively, is 17 (b) 13 (c) 14 (d) 18

A. 17

B. 13

C. 14

D. 0.18

Answer: B

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21. In a game, if we reach a level, we get 400 points and if we mis any level, we lose 300 points. Rhoit reaches 20 levels and misses 30 levels. Find his net score.

A. 1000

B. 500

C. -500

D. -1000

Answer: D

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22. The LCM of two numbers is 1200. Which of the following cannot be their HCF? (a) 600 (c) 200 (b) 500 (d) 400

A. 324

B. 260

C. 648

D. 360

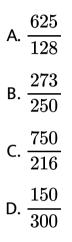**Answer: B**

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23. Which of the following fractions represent a non terminating decimal?

A. $\dfrac{625}{128}$

B. $\dfrac{273}{250}$

C. $\dfrac{750}{216}$

D. $\dfrac{150}{300}$

Answer: C

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24. Match Column A with Column B.

Column A	Column B
27. $\dfrac{3}{7}$ can be expressed as a	(a) Terminating decimal
28. $\dfrac{5}{2}$ can be expressed as a	(b) Non-terminating and non-repeating decimal
29. 2.012341234523456... is a	(c) Non-terminating and repeating decimal
30. The periodicity of $3.\overline{01}$ is	(d) 2
	(e) 01

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