MATHS

BOOKS - PEARSON IIT JEE FOUNDATION

NUMBERS

Example

1. Expand 23,579.

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2. Compare 21, 342 and 9,876.

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3. Compare 57,986 and 58,320.

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4. Find the number of all the three-digit numbers in Hindu-Arabic System.

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5. List out all three-digit numbers formed by using the digits 2, 7 and 9.

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6. Arrange the following in ascending order : $-3, -8, 10, -2, 7, 15, -12, 6.$

A. $-12, -8, -3, -2, 6, 7, 15, 10.$

B. $-12, -8, -3, -2, 6, 7, 10, 15.$

C. $-12, \ -8, \ -2, \ -3, 6, 7, 10, 15.$

D. $-2, \ -8, \ -3, \ -12, 6, 7, 10, 15.$

Answer: B

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7. Add 5 to -3 and show the addition on the number line.

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8. Find the value of 4+(-5).

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9. Evaluate: $86 - 72 + 33 - 48 + (-14) - (-26)$

A. 11

B. 13

C. 7

D. 12

Answer: A

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10. Evaluate:

(i) $4752 \div 132$

$(ii) 3564 \div 22$

A. $(i) 36$

$(ii) 162$

B. $(i) 38$

$(ii) 162$

C. $(i) 38$

$(ii) 168$

D. $(i)39$

$(ii)169$

Answer: A

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11. Abhi covers a certain distance in 120 minutes. He covers half of the distance in 2/3 of the time.

Find the time taken to cover the remaining distance.

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12. Malini and Manoj visited Kulu Manali. They observed the temperature of the place as follows.

Initially there was 10° C later there was a 4° fall in the temperature. Again there was 2° rise, 5° fall, 6° rise and 3° fall. Find the status of the temperature at the end.

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13. Simplify: $4 \times 3 - 2 + 16 \div 8$

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14. Simplify : $12 \div 4 - 3 \times 6 + 7$

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15. Simplify $92 - [18 + 16 \div 4\{26 - (14 - 7 - 3)\}]$

A. $\frac{812}{11}$

B. $\frac{80}{496}$

C. $\frac{700}{11}$

D. $\frac{97}{14}$

Answer: A

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16. If P means multiplication, Q means division, R means addition and S mens subtraction, than find the value of 36P48Q16R15S23.

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Very Short Answer Type Questions

1. The number of digits in the Hindu-Arabic number system is___.

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2. The place value of the digit 3 in the number 2356 is___.

A. 30

B. 3

C. 300

D. 3000

Answer: C

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3. The digit whose place value is always the same regardless of its position or place in a given number is___.

A. 1

B. 0

C. 2

D. 3

Answer: B

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4. The difference between the place value and face value of the digit 6 in the number 9867 is___.

A. 24

B. 34

C. 54

D. 64

Answer: C

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5. The number of 4-digit numbers in the Hindu Arabic system is___.

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6. The number of 3-digit numbers that can be formed using the digits 3, 5 and 7 without repetition is___.

A. 3

B. 4

C. 5

D. 6

Answer: D

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7. The sum of the successor and the predecessor of 100 is___.

A. 198

B. 199

C. 200

D. 201

Answer: C

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8. The difference between the greatest and the smallest numbers formed by all the digits $2, 3, 5,$ and 7 is $XYZX$, where X, Y, Z are digits, then X is___.

A. 5

B. 8

C. 9

D. 10

Answer: A

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9. The number of digits in the successor of the greatest 4-digit number is____.

A. 4

B. 5

C. 3

D. 6

Answer: B

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10. A is a 3 digit number and B is the number formed by reversing the digit of A. The face value of the digit in the tens place of A-B is___. $(B < A)$

A. 9

B. 1

C. 0

D. 2

Answer: A

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11. Match the following Columns A to B

Column A			Column B	
(a)	Arab	( )	(p)	10^9
(b)	Mahasamudram	( )	(q)	10^{11}
(c)	Kharab	( )	(r)	10^{52}
(d)	Googol	( )	(s)	10^{100}

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12. The absolute value of -36 is___.

A. -36

B. 36

C. 0

D. 1

Answer: B

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13. |-7|-|-8| = ____.

A. 1

B. -1

C. -2

D. 2

Answer: B

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14. 4+(-8)-7 =_____.

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15. The sum of two integers is -6 and one of them is 7, then the other is____.

A. 13

B. -13

C. 10

D. -12

Answer: B

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16. Which of the following statement is true?

A. The product of two negative integers is negative.

B. The sum of a negative integer and a positive integer is always positive.

C. The product of two positive and two negative integers is positive.

D. The product of any number of negative integers is negative.

Answer: C

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17. Which of the following is true ?

A: - 12 + (-15) B: -16 - (12) C: -14 - (-12)

A. $B > C > A$

B. $A + B > C$

C. $C > A > B$

D. $A < B < C$

Answer: C

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18. Which of the following properties are true?

(A) $(14) \div (-2) = 7$

(B) $(-14) \div 2 = -7$

(C) $(-14) \div (-2) = 7$

A. A, B

B. B, C

C. A, C

D. A, B, C

Answer: B

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19. Which of the following statement is true?

A. If there is a drop of $4^\circ C$, from -10° C, the result is -6° C.

B. 525 m above sea level is denoted as -525 m

C. |-5|-|-3| = |-8|

D. The absolute value of an integer is never less than the integer itself.

Answer: D

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20. Match the following Column A to Column B

Column A		Column B	
(a)	(–2) (–3) (–5)	( )	(p) –30
(b)	6 (–2) (–3)	( )	(q) –36
(c)	(–15) (–2)	( )	(r) 30
(d)	(–9) (–2) (–2)	( )	(s) 36

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21. $8 - \overline{3 - 2}$ =____.

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22. $6 \div 3 + 3 =$___.

A. 6

B. 5

C. 7

D. 8

Answer: B

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23. $5 \times 2 + 4 =$___.

A. 12

B. 14

C. 11

D. 13

Answer: B

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24. $9 \times (-13) - 13$=___.

A. 130

B. -130

C. 131

D. -131

Answer: -130

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25. $15 \div 3 \times 5 - 10$=___.

A. 15

B. -9

C. -3

D. 20

Answer: A

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26. $5 \div 5 \div 5$=____.

A. 5

B. $\frac{1}{5}$

C. 25

D. $\frac{1}{25}$

Answer: B

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27. Which of the following is false ?

A. $2 \times 7 - 7 = 0$

B. $2 \div 3 \times 2 = 10$

C. $16 \div 8 + 8 = 1$

D. All of these

Answer: D

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28. Which of the following is true ?

A. $4 \div 4 + 1 = 2$

B. $5 - 2 \times 3 = 9$

C. Both (a) and (b)

D. None of these

Answer: A

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29. Match the following Column A to Column B

Column A			Column B
(a)	$3 \times 2 - 8 \div 4$	( )	(p) 14
(b)	$4 \div 2 + 3 \times 4$	( )	(q) 12
(c)	$18 - 9 \div 3 \times 5$	( )	(r) 4
(d)	$72 - 15 \times 20 \div 5$	( )	(s) 3

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Short Answer Type Questions

1. Write the following numbers in words.

(i) 5,00,78,90,500 (ii) 1,01,00,17,000

(iii) 90,00,09,050

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2. Write the following in figures.

(i) Six crore six lakh and six thousand

(ii) Seven arab five crore three hundred and one

(iii) Eighty eight crore ninety nine lakh fifty five thousand and seventy four

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3. Find the difference between the place values of the two 5's in 895435.

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4. Write all the possible three-digit numbers using the digits 5, 0 and 7 without repetition of the digits.

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5. X is the number of two-digit numbers formed by 3, 5, or 7, when the repetition is allowed. Y is the number of two-digit numbers formed by 3, 5, or7, when the repetition is not allowed. Find by how much X exceeds Y.

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6. Write all the possible 4-digit even numbers using the digits 5, 8, 9 and 4 when the repetition is not allowed.

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7. Find the difference between the greatest 5-digit number and the greatest 4-digit number formed using the digits 7, 6, 2, 5, 1 when the repetition is not allowed.

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8. A and B are two numbers. The non-zero digit in the crore's place of A is 3 less than the digit in the hundreds place of B. The non-zero digit in 10's place of B is 2 less than the number in 10's place of A. If both the numbers have equal number of digits and all the remaining digits are equal but not zeros, then find the least possible difference between A and B.

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9. Write the expanded form of twenty four lakh seventy five thousand and fifty six.

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10. What should be subtracted from $-\frac{5}{4}$ to get -1?

A. $-\frac{1}{4}$

B. $\frac{1}{4}$

C. 1

D. $-\frac{3}{4}$

Answer: $-\frac{1}{4}$

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11. Represent the following as integers.

(a) Gain of Rs. 28

(b) Loss of Rs. 48

(c) 36 m below sea level

(d) 12° C rise in temperature

(e) 5° C fall in temperature

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12. Arrange the following integers in ascending order.

(i) 3, -5, 0, -2, -7, -1, 4

(ii) -15, -12, 11, -13, 10, 5, -9

A. (i) -7, -5, -2, -1, 0, 3, 4.

(ii) -15, -13, -12, -9, 5, 10, 11.

B. (i) -7, -5, -2, -1, 0, 3, 4.

(ii) -15, -12, -13, -9, 5, 11, 10.

C. (i) -7, -1, -2, -5, 0, 3, 4.

(ii) -15, -13, -12, -9, 10, 5, 11.

D. (i) -1, -5, -2, -7, 0, 4, 3.

(ii) -15, -13, -12, -9, 5, 10, 11.

Answer: A

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13. Write the following in descending order.

(i) -8, 6, -9, 13, -23, 14, -16, 25

(ii) 42, -43, 64, -86, 120, -115

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14. Write the statements given below in symbols and list the elements.

(i) Integers lying between -15 and -8.

(ii) Integers greater than -5 and less than 1.

If A and B are the number of elements in the sets (i) and (ii), respectively, then find the value of $|-(A-B)|$.

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15. Find the value of

(i) $|-15| + |12|$ (ii) $-|13|-|-7|$

(iii) $|17|-|-9|$

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16. X is integer in m representing '16 m below sea level'. Y is an integer in Rs. Reresenting withdrawl of Rs. 24. Z is an integer in Rs. Representing a gain of Rs. 32. Find the following

(i) |X|-|Z| (ii) ||Y|-|Z||

(iii) |X| + |Y|

A. (i) 16 (ii) 9 (iii) 40

B. (i) 16 (ii) 8 (iii) 41

C. (i) -16 (ii) 8 (iii) 40

D. (i)-15 (ii) 9 (iii) 40

Answer: (i) -16 (ii) 8 (iii) 40

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17. A is neither positive nor negative B= -|-8|, C is the absolute value of -12.

(i) A+B+C (ii) |B + C|

Compare 2B, A and 3C

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18. Do the following simplification . 3 + 5 - 6 -4

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19. Evaluate :

$(i) 14625 \div 25$ $(ii) 15120 \div 144$

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20. An integer P is added to another integer Q, then the result is R. If R is -12 more than P, then find Q. Also find R when P is 42.

A. 30

B. 32

C. 20

D. 23

Answer: 30

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21. A basket contains 120 fruits from which 15 are sold and 42 are spoiled. After removing the spoiled fruits, 36 new fruits are placed in the basket. Find the number of fruits in the basket finally.

A. 78

B. 80

C. 89

D. 99

Answer: D

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22. $45 - 26 \div 13 \times 6 + 10$

A. 40

B. -49

C. 43

D. -43

Answer: 43

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23. $65 \div 5 - 15 \times 3 + 27 \div 9 \times 3 - 24 \div 8 + 7$

A. -29

B. 18

C. 20

D. -19

Answer: -19

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24. $\left[\left\{12-\overline{14-8}+7\right\}-15\right]$

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25. $52-\left[48\div12\times6\left\{6-\left(8\times3-\overline{6-4}\right)\right\}\right]$

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26. $242-\left[360-248\div\left\{180+7\times\left(2-\overline{26-16}\right)\right\}\right]$

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27. Simplify : $25+\left[14-18+\left\{12\ \text{ of }\ 5-\left(16\div4\times3-2\right)\right\}\right]$

A. 23

B. 76

C. 34

D. 71

Answer: D

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28. $\left[78-\left\{75-\left(76-\overline{72-75}\right)\right\}\right]$

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29. $\left\{16-\left(4+18\div 6-\overline{7-5}\right)\times 5\right]$

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30. $\left[3077-85\left\{32\div 8\times\left(24-\overline{36-18}\right)\right\}\right]$

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31. $4940 \div [\{12 + 16(48 - (8 - \overline{15 + 6}))\}]$

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32. If P, Q, R and S represents $'X'$, $\div$, $+$ and $-$ respectively, then find the value of 60Q15P35S25R45.

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33. Which integer should be placed in the place of x in $11 + 48 \div (14 - x) + 5 \times [-3]$ such that the result is zero?

A. 2

B. 3

C. -2

D. 4

Answer: 2

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Concept Application

1. If P is a 3-digit number and Q is the number formed by reversing the digits of P, then find the difference between the place value of the digits in the tenth place.

A. 1

B. 9

C. 0

D. Cannot say

Answer: C

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2. A shopkeeper brought 12 dozen eggs out of which 2 dozen the damaged. Afer removing the damaged eggs, 8 eggs are replaced.

Find the remaining number of eggs with the shop-keeper finally.

A. 8 dozen

B. 119

C. 10 dozen

D. 121

Answer: B

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3. If A, B, C and D represents X, $\div$, $+$ and - respectively, then find the value of 90B3A5D3C9.

A. 12

B. 24

C. 156

D. 30

Answer: C

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4. The cost of a pen is the largest two-digit number (in Rs.). The cost of a text book and geometry box respectively are the successor and predecessor of the cost of the pen. Find the sum of the costs of the text book and geometry box (in Rs.)

A. 197

B. 198

C. 200

D. 201

Answer: B

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5. P is neither positive nor negative, Q = -|-9| and R is the absolute value of -13.

Which of the following is the value of P +Q +R?

A. 21

B. 22

C. 4

D. -4

Answer: C

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Assessment Test

1. Write the expanded form of the following and write in words.

(i) 32,008 (ii) 7,00,050 (iii) 9,01,020

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2. Write the following numbers in figures.

(i) Seventry nine crore seven hundred and seven

(ii) Eighty nine lakh sixty four thousand and two

(iii) Four arab thirty two crore sixty eight lakh thirty four thousand and seventry three

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3. Write all the possible 2-digt numbers using the digits 3, 4 and 5 without repeating any digit.

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

A. 4000

B. 4080

C. -4080

D. 4086

Answer: 4086

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5. How many six-digit numbers are there in Hindu-Arabic system?

A. 2,00,000

B. 9,00,000

C. 8,00,000

D. 7,00,000

Answer: B

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6. Simplify and show it on the numbers line:: -5+4-3-2+7

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7. Evaluate : 35-28 + 6-(-4)

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8. Evaluate : (i) 27225 $\div$ 55 (ii) 44616 $\div$ 156

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9. Simplify : $3 + 2 - 6 \div 3 \times 7$

A. 7

B. -9

C. 8

D. 9

Answer: -9

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10. Simplify: $37 - 24 \text{ of } 4 \div 16 \times 5$

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11. Simplify : $36 - 369 \div \left[-72 \div 24 \times 5 + 2\left(17 - \overline{7 - 18}\right)\right]$

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12. Which integer should be placed in the box such that the result is 2?

$[\{(20 - 18 - \square) + 2\} \times 4] \div 14$

A. 3

B. 33

C. -3

D. 30

Answer: 3

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13. How many 4-digit even numbers can be formed using the digits 5, 6, 7 and 8 without repeating any digit?

A. 12

B. 10

C. 11

D. 8

Answer: 12

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14. Write $13, 78, 57, 632$ in the expanded form.

A.

$10, 00, 00, 000 + 3, 00, 00, 000 + 70, 00, 000 + 80, 000 + 50, 000 + 7, 0$

B.

$10, 00, 00, 000 + 3, 00, 00, 000 + 70, 00, 000 + 8, 00, 000 + 50, 000 + 7$

C.

$10, 00, 00, 000 + 3, 00, 00, 000 + 70, 00, 000 + 8, 00, 000 + 50, 000 + 7$

D.

$10, 00, 00, 000 + 3, 00, 00, 000 + 70, 00, 000 + 8, 00, 000 + 50, 000 + 7$

Answer: C

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15. The sum of the rational numbers $-\frac{8}{19}$ and $-\frac{4}{57}$ is :

A. $-\frac{5}{57}$

B. $\frac{7}{22}$

C. $-\frac{28}{57}$

D. $\frac{4}{27}$

Answer: $-\frac{28}{57}$

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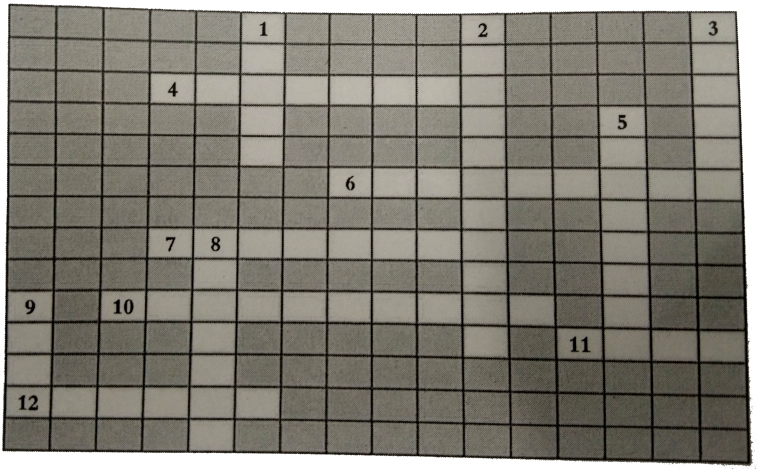
Crossword

1.



Across	Down
4. The sign of integers less than zero	1. Ea
6. A number that comes just after another	2. A
7. The whole numbers and negative natural numbers together	3. It i
10. Expressing a number in words	5. Int
11. An integer which is neither positive nor negative	8. Re
12. The order of operations	9. Hu

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