CLASS VII

SUBJECT : MATHEMATICS

CHAPTER : 1 (INTEGERS)

HOT'S QUESTIONS AND CASE STUDIES

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Q(1). Choose the pair/pairs of integers which are additive inverse to each other.

(a) (-15 , 15) (b) (3,0) (c) (102, -102) (d) both option (a) and (c)

Q(2). Choose the correct option :

Statement 1 : "All the whole numbers are natural numbers."
Statement 2 : "All the integers are not natural numbers."

(a) Statement 1 is TRUE but Statement 2 is FALSE (b) Statement 1 is FALSE but Statement 2 is TRUE

(c) Both are TRUE (d) Both are FALSE

Read the instructions carefully and answer Q(3) & Q(4).

Suppose you have a certain integer say, 'a'. After multiplying that integer by a certain number you have got the same integer 'a' back.
Q(3). Can you identify the integer by which you have multiplied 'a' ?

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

Q(4). The above identified integer is also known as

(a) additive inverse (b) additive identity (c) multiplicative inverse (d) multiplicative identity

Q(5). When you can get difference of any two integers is zero ?

(a) when they are additive inverse to each other

(b) when the two integers are same

(c) when one integer is additive identity and another is multiplicative identity

(d) can't be determined

Q(6). Commutative property doesn't hold for

(a) subtraction and multiplication (b) addition and division

(c) multiplication and addition (d) subtraction and division

Q(7). Choose the correct option : "A negative and a positive integer whose difference is -25."

(a) (-75 , +50) (b) (-20 , +5) (c) (-25 , +50) (d) (0 , +25)

Q(8). Simplify : [0÷ (-189)] ÷ [2÷(-2)]

(a) undefined (b) -2 (c) 1 (d) 0

Q(9). Find the product of (-2)× (-2)× (-2)×…….7times

(a) 64 (b) 132 (c) -512 (d) -128

Q(10). Choose the correct option :

COLUMN A	COLUMN B
(a) Distributive property	(i) Commutative property
(b) Additive inverse of -20	(ii) {(-10) + 5} + (-6) = (-10) + {5 + (-6)}
(c) Closure property	(iii) a X (b + c) = a X b + a X c
(d) Associative property	(iv) +20
(e) 15 X (-30) = (-30) X 15	(v) Exist for Addition , Subtraction and Multiplication of Integers

(A) (a) = (iii) , (b) = (iv) , (c) = (ii) , (d) = (v) , (e) = (i)

(B) (a) = (iii) , (b) = (iv) , (c) = (v) , (d) = (ii) , (e) = (i)

(C) (a) = (ii) , (b) = (iv) , (c) = (iii) , (d) = (v) , (e) = (i)

(D) (a) = (iii) , (b) = (v) , (c) = (iv) , (d) = (ii) , (e) = (i)

Q(11). Choose the correct one :

(A) a + b = a - (-b) (B) a + b = b - (-a) (C) both are correct (D) none of these is correct

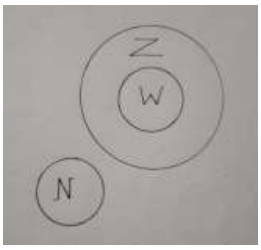
Q(12). Which property is applicable in the given expression? 123 X (-73) + (-27) X 123

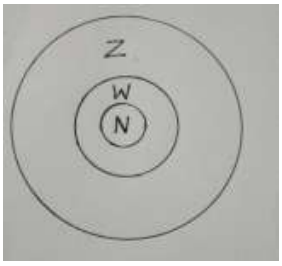
(a) commutative property (b) closure property (c) distributive property (d) associative property

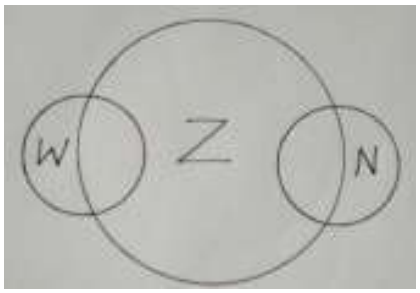
Q(13). The temperature of a certain place at a certain time is 16 degree Celsius above zero. If it decreases at the rate of 3 degree Celsius in every half an hour, then what would be the temperature after 5 hours?

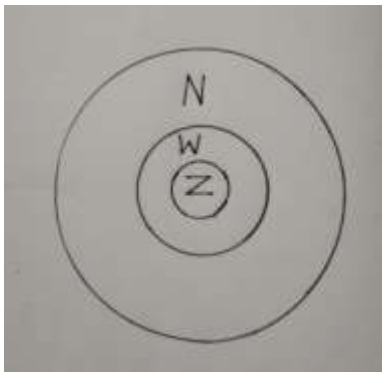
(a) 30°C (*b*) -10°C (c) 14°C (d) -14°C

Q(14). If "N" is represented by Natural numbers , "W" is represented by Whole numbers and "Z" is represented by Integers , then which of the following diagram is true?

(a) 

(b) 

(c) 

(d) 

Q(15). Multiply additive inverse of 873 by the additive identity of integers.

(a) 873 (b) 1/873 (c) 0 (d) -873

Q(16). Simplify : -124 – (-210) + (-135) – (+48)

(a) 97 (b) -97 (c) -124 (d) -87

Q(17). Subtract 75 from -150

(a) 75 (b) -75 (c) -225 (d) 225

Q(18) CASE STUDY 1

Mohini had visited some states of India during summer vacation. First she visited at Himachal Pradesh(H. P).That time the temperature of H.P was 10°C. After that she visited to Jammu & Kashmir(J&K) where the temperature was -15°C. Then she Visited to Ladakh, there the temperature was-27°C. From there she visited to Delhi, the Delhi temperature was 20°C on that time. From there she went to Andhra Pradesh, there the temperature was 40°C. From there she returned home and the home temperature on that time was 30°C.

1. Find the temperature difference between Delhi and Ladakh.

2. Find the LC.M of temperature of home and Andhra Pradesh.

3. How much temperature of Ladakh should increase so that the temperature of Ladakh will equal to the temperature of Delhi?

4. Find the H.CF of J&K and Ladakh temperature.

5. If the temperature of Ladakh reduced by 2 degree Celsius, then what would be the new temperature of Ladakh?

6. Find the sum of reciprocal of H.P and home temperature.

7. Find the sum of J&K and Andhra Pradesh temperature.

8. How much temperature of Delhi should decrease so that the temperature of Delhi would equal to the temperature of J&K?

9. Represent (Andhra Pradesh / home) temperature into mixed fraction.

10. What will be the additive inverse of H.P temperature?

Q(19) CASE STUDY 2 :

A wooden slide is leaning against a wall and the bottom of the wall is at the ground. The length of the wooden slide is 8m. From the ground level a cat is trying to reach at the top of the slide. But due to slippery in first step it is raising up for 3m and in second step it is slipping down for 2m. The same pattern it has followed to reach at the top.

1. How many steps will it take to reach at the top?

2. In which step it will exactly be 2m above from the ground?

3. In which step will it be 1m below from the top?

4. In which step will it be 5m above the ground?

5. In which step it has reached exactly where it was at first step?

6. How far will it be from the top at 6^{th} step?

7. In which step it will be at 4m above the ground?

8. Find the pair of steps where the difference of distances is zero.

9. Write the additive inverse of the distance covered by the cat at 3^{rd} step.

10. Add Distance covered by the cat in 2^{nd} step with additive inverse of the distance covered by it in 7^{th} step.

Q(20). CASE STUDY 3 :

12, -3, 7, 4, -6, -12, 2, 0, -9, 15, -10, 12, -4

Some integers are given above. By using these integers answer the following questions.

1. Find the possible pairs of integers if any which are additive inverse to each other.

2. Find the possible pairs of integers if any whose difference is -5.

3. Find the possible pairs of integers whose sum can give you the additive identity.

4. Find the possible pairs of integers if any whose difference is zero.

5. Find the possible pairs of integers whose sum is -7.