

EXERCISE 1.2**PAGE: 9****1. Write down a pair of integers whose:****(a) sum is -7****Solution:-**

$$\begin{aligned} &= -4 + (-3) \\ &= -4 - 3 && \dots [\because (+ \times - = -)] \\ &= -7 \end{aligned}$$

(b) difference is - 10**Solution:-**

$$\begin{aligned} &= -25 - (-15) \\ &= -25 + 15 && \dots [\because (- \times - = +)] \\ &= -10 \end{aligned}$$

(c) sum is 0**Solution:-**

$$\begin{aligned} &= 4 + (-4) \\ &= 4 - 4 \\ &= 0 \end{aligned}$$

2. (a) Write a pair of negative integers whose difference gives 8**Solution:-**

$$\begin{aligned} &= (-5) - (-13) \\ &= -5 + 13 && \dots [\because (- \times - = +)] \\ &= 8 \end{aligned}$$

(b) Write a negative integer and a positive integer whose sum is - 5.**Solution:-**

$$\begin{aligned} &= -25 + 20 \\ &= -5 \end{aligned}$$

(c) Write a negative integer and a positive integer whose difference is - 3.**Solution:-**

$$\begin{aligned} &= -6 - (-3) \\ &= -6 + 3 && \dots [\because (- \times - = +)] \\ &= -3 \end{aligned}$$

3. In a quiz, team A scored – 40, 10, 0 and team B scored 10, 0, – 40 in three successive rounds. Which team scored more? Can we say that we can add integers in any order?

Solution:-

From the question, it is given that

Score of team A = -40, 10, 0

$$\begin{aligned}\text{Total score obtained by team A} &= -40 + 10 + 0 \\ &= -30\end{aligned}$$

Score of team B = 10, 0, -40

$$\begin{aligned}\text{Total score obtained by team B} &= 10 + 0 + (-40) \\ &= 10 + 0 - 40 \\ &= -30\end{aligned}$$

Thus, the score of the both A team and B team is same.

Yes, we can say that we can add integers in any order.

4. Fill in the blanks to make the following statements true:

(i) $(-5) + (-8) = (-8) + (\dots\dots\dots)$

Solution:-

Let us assume the missing integer be x,

Then,

$$\begin{aligned}&= (-5) + (-8) = (-8) + (x) \\ &= -5 - 8 = -8 + x \\ &= -13 = -8 + x\end{aligned}$$

By sending – 8 from RHS to LHS it becomes 8,

$$\begin{aligned}&= -13 + 8 = x \\ &= x = -5\end{aligned}$$

Now substitute the x value in the blank place,

$(-5) + (-8) = (-8) + (-5) \dots$ [This equation is in the form of Commutative law of Addition]

(ii) $-53 + \dots\dots\dots = -53$

Solution:-

Let us assume the missing integer be x,

Then,

$$= -53 + x = -53$$

By sending – 53 from LHS to RHS it becomes 53,

$$\begin{aligned}&= x = -53 + 53 \\ &= x = 0\end{aligned}$$

Now substitute the x value in the blank place,

$$= -53 + 0 = -53 \dots \text{ [This equation is in the form of Closure property of Addition]}$$

(iii) $17 + \dots = 0$

Solution:-

Let us assume the missing integer be x,

Then,

$$= 17 + x = 0$$

By sending 17 from LHS to RHS it becomes -17,

$$= x = 0 - 17$$

$$= x = -17$$

Now substitute the x value in the blank place,

$$= 17 + (-17) = 0 \dots \text{ [This equation is in the form of Closure property of Addition]}$$

$$= 17 - 17 = 0$$

(iv) $[13 + (-12)] + (\dots) = 13 + [(-12) + (-7)]$

Solution:-

Let us assume the missing integer be x,

Then,

$$= [13 + (-12)] + (x) = 13 + [(-12) + (-7)]$$

$$= [13 - 12] + (x) = 13 + [-12 - 7]$$

$$= [1] + (x) = 13 + [-19]$$

$$= 1 + (x) = 13 - 19$$

$$= 1 + (x) = -6$$

By sending 1 from LHS to RHS it becomes -1,

$$= x = -6 - 1$$

$$= x = -7$$

Now substitute the x value in the blank place,

$= [13 + (-12)] + (-7) = 13 + [(-12) + (-7)] \dots \text{ [This equation is in the form of Associative property of Addition]}$

(v) $(-4) + [15 + (-3)] = [-4 + 15] + \dots$

Solution:-

Let us assume the missing integer be x,

Then,

$$= (-4) + [15 + (-3)] = [-4 + 15] + x$$

$$= (-4) + [15 - 3] = [-4 + 15] + x$$

$$= (-4) + [12] = [11] + x$$

$$= 8 = 11 + x$$

By sending 11 from RHS to LHS it becomes -11,

$$= 8 - 11 = x$$

$$= x = -3$$

Now substitute the x value in the blank place,

$= (-4) + [15 + (-3)] = [-4 + 15] + -3$... [This equation is in the form of Associative property of Addition]

