



Negative Numbers and Integers Ex 5.4 Q12

**Answer :**

$$\begin{aligned} \text{(i)} \quad & -4 + 3 - (-2) \\ & = -4 + (3 + 2) \\ & = -4 + 5 \\ & = 1 \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & -(-2) + (-3) - (-2) \\ & = (2 - 3) + 2 \\ & = -1 + 2 \\ & = 1 \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & -6 + (-5) - (-2) \\ & = -6 + (-5 + 2) \\ & = -6 - 3 \end{aligned}$$

$$= -9$$

$$\begin{aligned} \text{(iv)} \quad & -(-5) + 6 - (-2) \\ & = 5 + (6 + 2) \\ & = 5 + 8 \\ & = 13 \end{aligned}$$

Negative Numbers and Integers Ex 5.4 Q13

**Answer :**

$a$  and  $b$  are integers such that  $a$  is the predecessor of  $b$ , that is,  $a = b - 1$ .

$$\begin{aligned} \therefore (a - b) & \\ & = (b - 1) - b \\ & = b - 1 - b \\ & = -1 \end{aligned}$$

Negative Numbers and Integers Ex 5.4 Q14

**Answer :**

$a$  and  $b$  are two integers such that  $a$  is the successor of  $b$ , that is,  $a = b + 1$ .

$$\begin{aligned} \therefore a - b & \\ & = b + 1 - b \\ & = 1 \end{aligned}$$

Negative Numbers and Integers Ex 5.4 Q15

**Answer :**

- (i) False; It should be  $-13 < -8 + 2 = -6$ .
- (ii) True;  $-4 - 2 = -6 < 2$
- (iii) True; For example:  $-(-2) = 2$
- (iv) True;  $a > b$
- (v) True; For example:  $3 - 2 = 1$ , which is a integer.
- (vi) False; For example:  $-2 + 2 = 0$ . Here, 2 is the additive inverse of  $-2$ ; it is positive.
- (vii) True
- (viii) True

Negative Numbers and Integers Ex 5.4 Q16

**Answer :**

- (i)  $-7 + 7 = 0$  ( $-a$  and  $a$  are the negative and additive inverses of each other.)
- (ii)  $29 + (-29) = 0$  ( $-a$  and  $a$  are the negative and additive inverses of each other.)
- (iii)  $132 + (-132) = 0$  ( $-a$  and  $a$  are the negative and additive inverses of each other.)
- (iv)  $-14 + 36 = 22$
- (v)  $-1256 + 514 = -742$
- (vi)  $-3305 - 1234 = -4539$

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