

**EXERCISE 6.2**

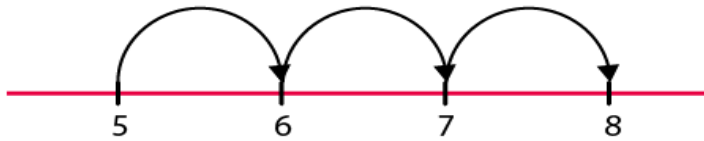
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1. Using the number line write the integer which is:

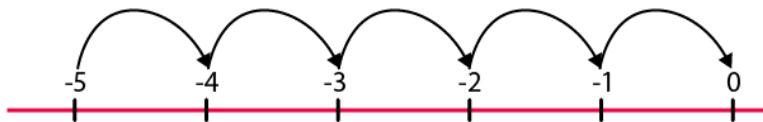
- (a) 3 more than 5
- (b) 5 more than  $-5$
- (c) 6 less than 2
- (d) 3 less than  $-2$

Solutions:

(a)

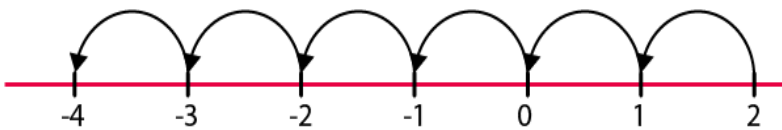


Hence, 8



(b)

Hence, 0



(c)

Hence,  $-4$



(d)

Hence,  $-5$

2. Use number line and add the following integers:

- (a)  $9 + (-6)$
- (b)  $5 + (-11)$
- (c)  $(-1) + (-7)$

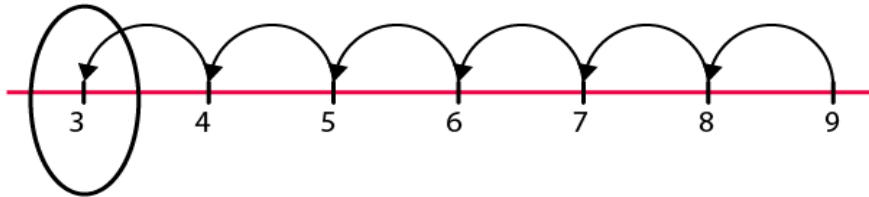
(d)  $(-5) + 10$

(e)  $(-1) + (-2) + (-3)$

(f)  $(-2) + 8 + (-4)$

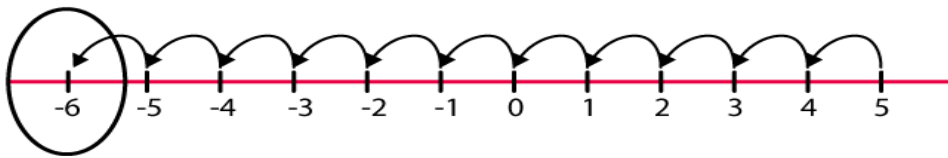
**Solutions:**

(a)



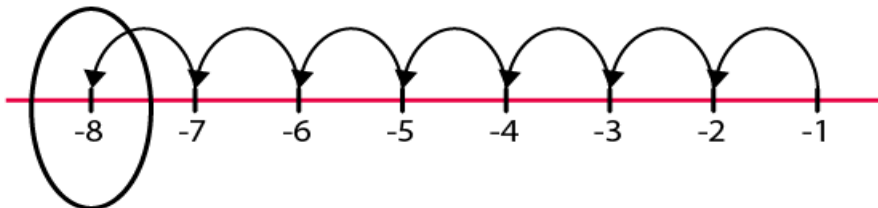
Hence, 3

(b)



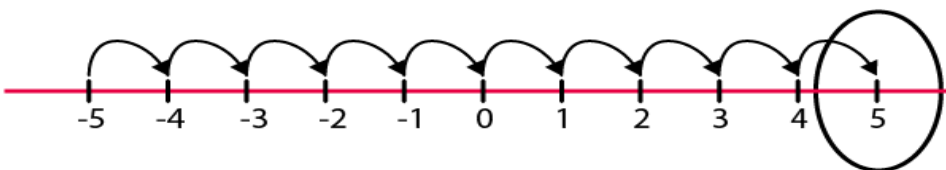
Hence, -6

(c)



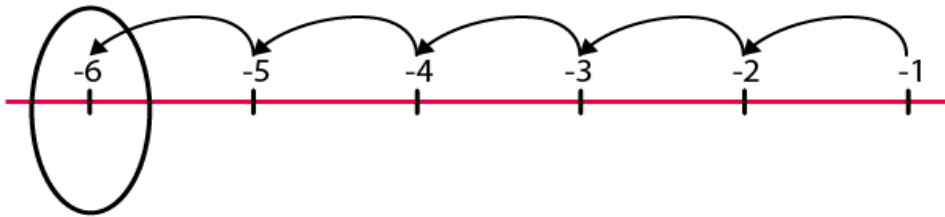
Hence, -8

(d)



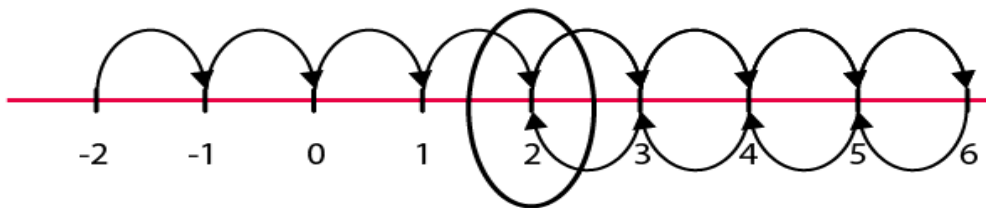
Hence, 5

(e)



Hence, -6

(f)



Hence, 2

**3. Add without using number line:**

- (a)  $11 + (-7)$
- (b)  $(-13) + (+18)$
- (c)  $(-10) + (+19)$
- (d)  $(-250) + (+150)$
- (e)  $(-380) + (-270)$
- (f)  $(-217) + (-100)$

**Solutions:**

- (a)  $11 + (-7) = 4$
- (b)  $(-13) + (+18) = 5$
- (c)  $(-10) + (+19) = 9$
- (d)  $(-250) + (+150) = -100$
- (e)  $(-380) + (-270) = -650$
- (f)  $(-217) + (-100) = -317$

**4. Find the sum of:**

- (a) 137 and -354
- (b) -52 and 52
- (c) -312, 39 and 192
- (d) -50, -200 and 300

**Solutions:**

- (a) 137 and -354

$$\begin{aligned}
 (137) + (-354) &= (317) + (-137) + (-217) \\
 &= 0 + (-217) && [(317) + (-317) = 0] \\
 &= (-217)
 \end{aligned}$$

$$= -217$$

(b) -52 and 52

$$(-52) + (+52) = 0 \quad [(-a) + (+a) = 0]$$

(c) -312, 39 and 192

$$\begin{aligned} (-312) + (+39) + (+192) &= (-231) + (-81) + (+39) + (+192) \\ &= (-231) + (-81) + (+231) \\ &= (-231) + (+231) + (-81) \\ &= 0 + (-81) \quad [(-a) + (+a) = 0] \\ &= -81 \end{aligned}$$

(d) -50, -200 and 300

$$\begin{aligned} (-50) + (-200) + (+300) &= (-50) + (-200) + (+200) + (+100) \\ &= (-50) + 0 + (+100) \quad [(-a) + (+a) = 0] \\ &= (-50) + (+100) \\ &= (-50) + (+50) + (+50) \\ &= 0 + (+50) \quad [(-a) + (+a) = 0] \\ &= 50 \end{aligned}$$

**5. Find the sum:**

(a)  $(-7) + (-9) + 4 + 16$

(b)  $(37) + (-2) + (-65) + (-8)$

**Solutions:**

(a)  $(-7) + (-9) + 4 + 16$

$$\begin{aligned} &= (-7) + (-9) + 4 + (+7) + (+9) \\ &= (-7) + (+7) + (-9) + (+9) + 4 \\ &= 0 + 0 + 4 \quad [(-a) + (+a) = 0] \\ &= 4 \end{aligned}$$

(b)  $(37) + (-2) + (-65) + (-8)$

$$\begin{aligned} &= (+37) + (-75) \\ &= (+37) + (-37) + (-38) \\ &= 0 + (-38) \quad [(-a) + (+a) = 0] \\ &= -38 \end{aligned}$$