

EXERCISE 6.2

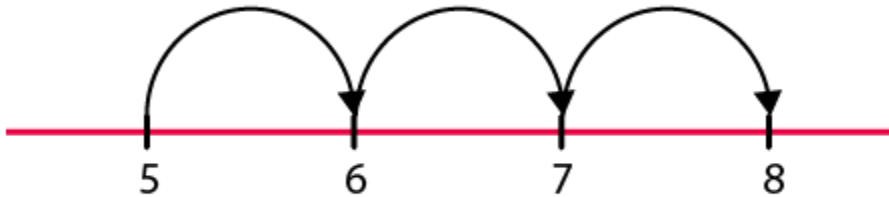
PAGE NO: 128

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

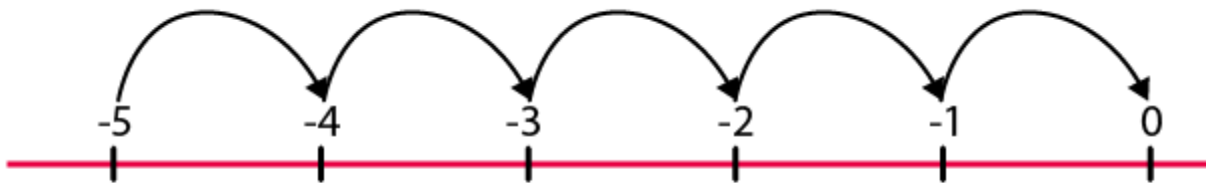
Solutions:

(a)



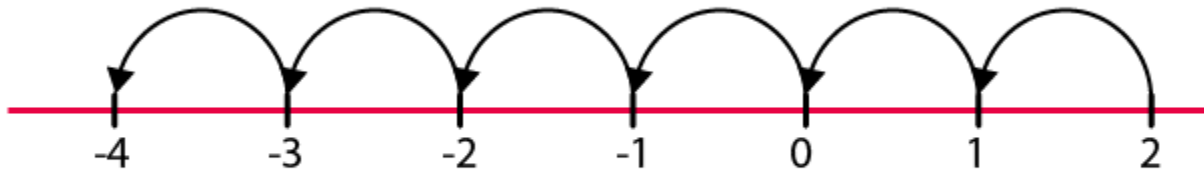
Hence, 8

(b)



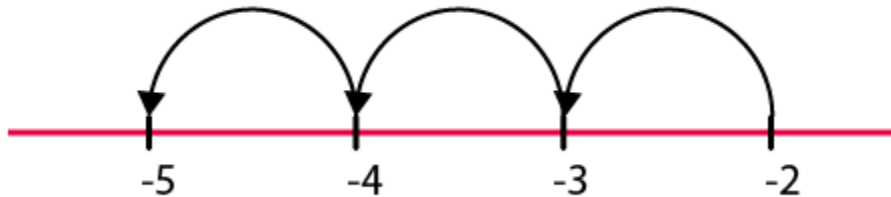
Hence, 0

(c)



Hence, -6

(d)



Hence, -5

2. Use a number line and add the following integers.

(a) $9 + (-6)$

(b) $5 + (-11)$

(c) $(-1) + (-7)$

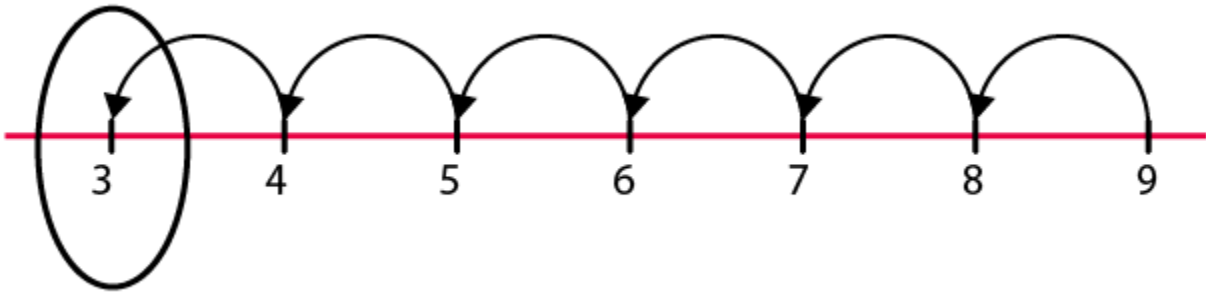
(d) $(-5) + 10$

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

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

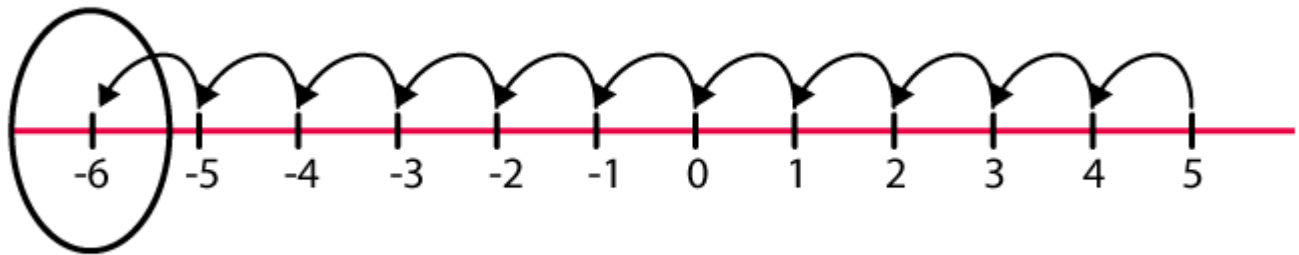
Solutions:

(a)



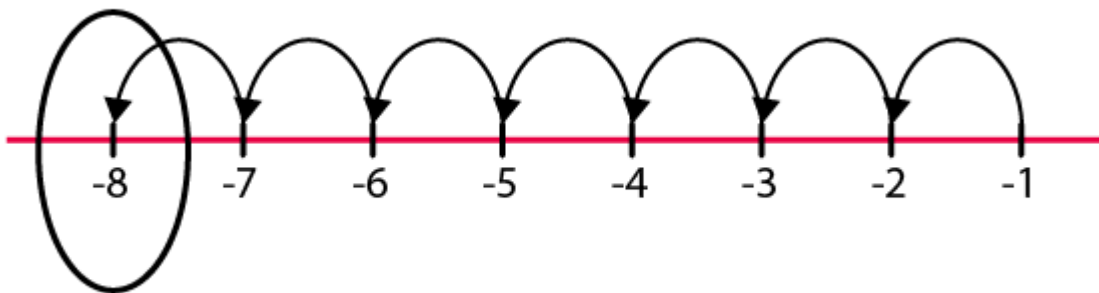
Hence, 3

(b)



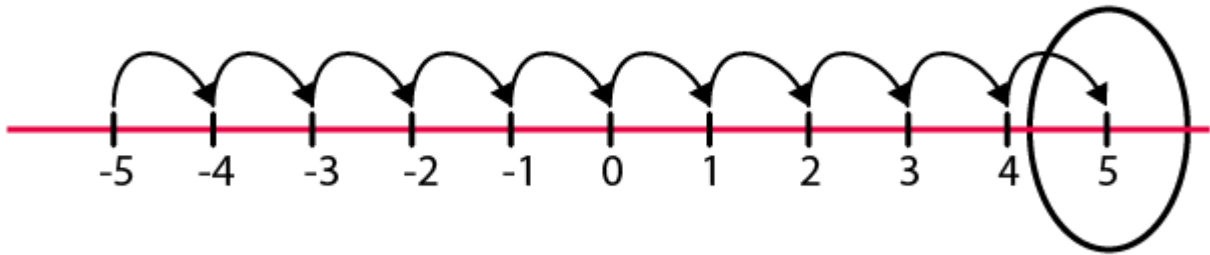
Hence, -6

(c)



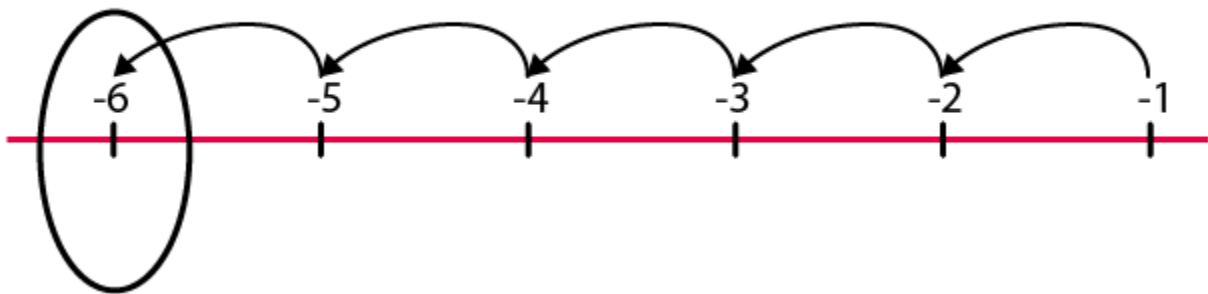
Hence, -8

(d)



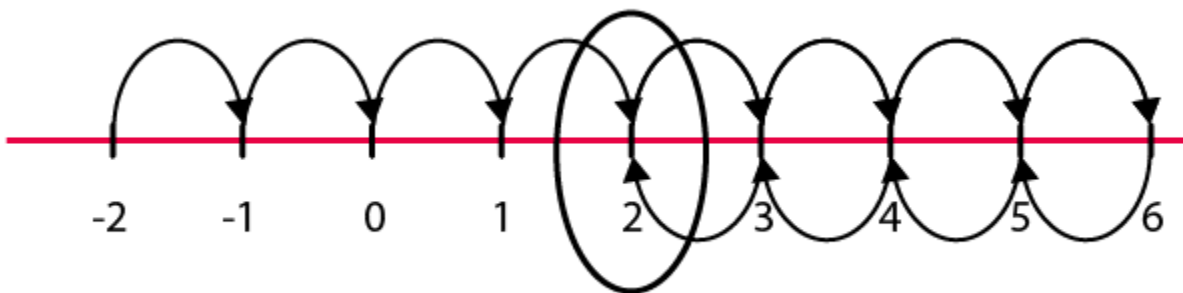
Hence, 5

(e)



Hence, -6

(f)



Hence, 2

3. Add without using a 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

$$(137) + (-354) = (137) + (-137) + (-217)$$

$$= 0 + (-217) [(137) + (-137) = 0]$$

$$= (-217)$$

$$= -217$$

(b) -52 and 52

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

(c) -312, 39 and 192

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

(d) -50, -200 and 300

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

5. Find the sum.

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

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

Solutions:

$$\begin{aligned}\text{(a)} \quad &(-7) + (-9) + 4 + 16 \\ &= (-7) + (-9) + 4 + (+7) + (+9) \\ &= (-7) + (+7) + (-9) + (+9) + 4 \\ &= 0 + 0 + 4 [(-a) + (+a) = 0] \\ &= 4\end{aligned}$$

$$\begin{aligned}\text{(b)} \quad &(37) + (-2) + (-65) + (-8) \\ &= (+37) + (-75) \\ &= (+37) + (-37) + (-38) \\ &= 0 + (-38) [(-a) + (+a) = 0] \\ &= -38\end{aligned}$$