

Ex-4'A'

Question 1.

Solution:

- (i) A decrease of 8
- (ii) A gain of Rs. 7
- (iii) Loosing a weight of 5 kg
- (iv) 10 km below sea level
- (v) 5°C above the freezing point
- (vi) A withdrawal of Rs. 100
- (vii) Spending Rs. 500
- (viii) Going 6 m to the west
- (ix) -24
- (x) 34

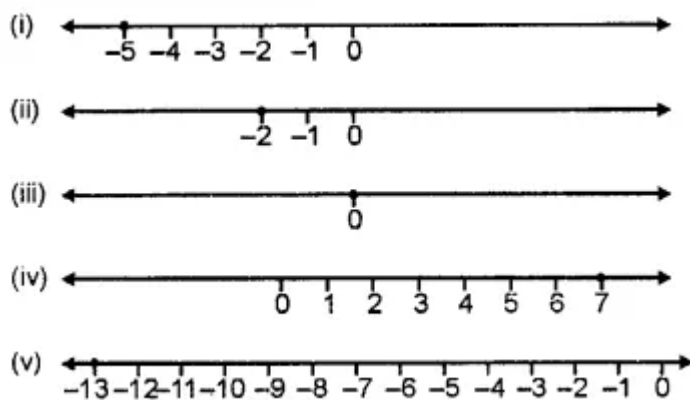
Question 2.

Solution:

- (i) + Rs. 600
- (ii) $-$ Rs. 800
- (iii) -7°C
- (iv) -9
- (v) + 2 km
- (vi) -3 km
- (vii) + Rs. 200
- (viii) $-$ Rs. 300

Question 3.

Solution:



Question 4.

Solution:

- (i) 0
- (ii) -3

- (iii) 2
- (iv) 8
- (v) - 365
- (vi) 8

Question 5.

Solution:

- (i) - 7
- (ii) - 1
- (iii) - 27
- (iv) - 26
- (v) - 603
- (vi) - 777

Question 6.

Solution:

- (i) The integers between 0 and 6 are
1, 2, 3, 4, 5.
- (ii) The integers between - 5 and 0 are
- 4, - 3, - 2, - 1.
- (iii) The integers between - 3 and 3 are
- 2, - 1, 0, 1, 2.
- (iv) The integer between - 7 and - 5 is - 6.

Question 7.

Solution:

- (i) $0 < 7$
- (ii) $0 > - 3$
- (iii) $- 5 < - 2$
- (iv) $- 15 < 13$
- (v) $- 231 < - 132$
- (vi) $- 6 < 6$

Question 8.

Solution:

- (i) - 7, - 2, 0, 5, 8
- (ii) - 100, - 23, - 6, - 1, 0, 12
- (iii) - 501, - 363, - 17, 15, 165
- (iv) - 106, - 81, - 16, - 2, 0, 16, 21.

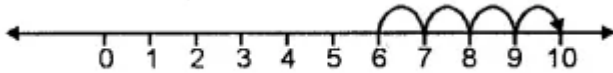
Question 9.

Solution:

- (i) 36, 7, 0, - 3, - 9, - 132
- (ii) 51, 0, - 2, - 8, - 53
- (iii) 36, 0, - 5, - 71, - 81
- (iv) 413, 102, - 7, - 365, - 515.

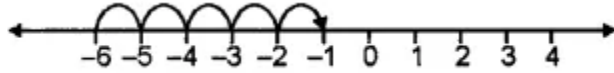
Question 10.**Solution:**

(i) We want to write an integer 4 more than 6. So, we start from 6 and proceed 4 steps to the right to obtain 10, as shown below:



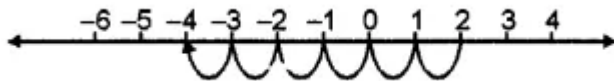
∴ 4 more than 6 is 10.

(ii) We want to write an integer 5 more than -6 . So, we start from -6 and proceed 5 steps to the right to obtain -1 , as shown below :



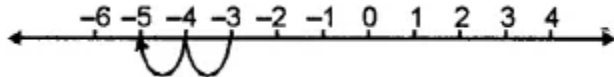
∴ 5 more than -6 is -1 .

(iii) We want to write an integer 6 less than 2. So we start from 2 and come back to the left by 6 steps to obtain -4 , as shown below:



∴ 6 less than 2 is -4 .

(iv) We want to write an integer 2 less than -3 . So we start from -3 and come back to the left by 2 steps to obtain -5 , as shown below :



∴ 2 less than -3 is -5 .

Question 11.**Solution:**

- (i) False, as zero is greater than every negative integer.
- (ii) False, as zero is an integer.
- (iii) True, as zero is neither positive nor negative.
- (iv) False, as -10 is to the left of -6 on a number line.
- (v) False, as absolute value of an integer is always equal to the integer.
- (vi) True, as 0 is to right of every negative integer, on a number line.
- (vii) False, as every natural number is positive. False, the successor is -186
- (viii) False, the predecessor is -216

Question 12.**Solution:**

- (i) $|-9| = 9$
- (ii) $|36| = 36$
- (iii) $|0| = 0$
- (iv) $|15| = 15$
- (v) $-|-3| = -3$
- (vi) $7 + |-3| = 7 + 3 = 10$

(vii) $|7 - 4| = |3| = 3$

(viii) $8 - |-7| = 8 - 7 = 1$

Question 13.

Solution:

The required integers are $-6, -5, -4, -3, -2$.

The required integers are $-21, -22, -23, -24, -25$.

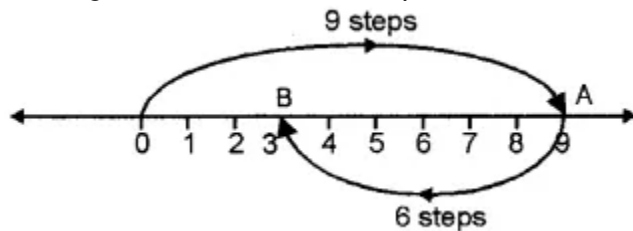
The required integers are $-21, -22, -23, -24, -25$.

Exercise-4 'B'

Question 1.

Solution:

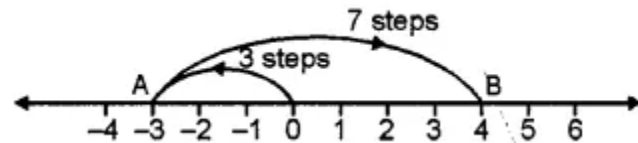
(i) On the number line we start from 0 and move 9 steps to the right to reach a point A. Now, starting from A, we move 6 steps to the left to reach a point B, as shown below :



Now, B represents the integer 3

$$9 + (-6) = 3$$

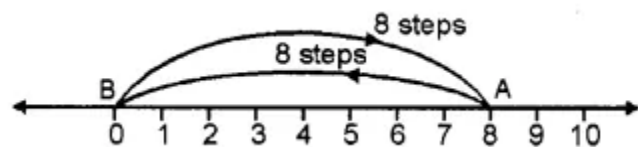
(ii) On the number line, we start from 0 and move 3 steps to the left to reach a point A. Now, starting from A, we move 7 steps to the right to reach a point B, as shown below :



And B represents the integer 4

$$(-3) + 7 = 4$$

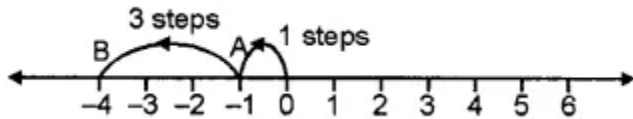
(iii) On the number line, we start from 0 and move 8 steps to the right to reach a point A. Now, starting from A, we move 8 steps to the left to reach a point B, as shown below :



And, B represents the integer 0.

$$8 + (-8) = 0$$

(iv) On the number line, we start from 0 and move 1 step the left to reach a point A. Now, starting from point A, we move 3 steps to the left to reach g. point B, as shown below :

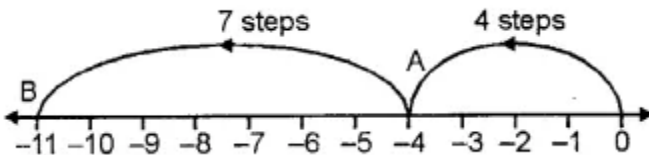


And, B represents the integer - 4

$$(- 1) + (- 3) = - 4.$$

$$(- 1) + (- 3) = - 4.$$

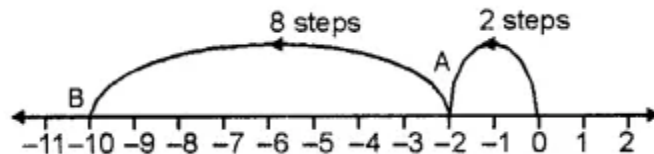
(v) On the number line, we start from 0 and move 4 steps to the left to reach a point A. Now, starting from point A, we move 7 steps to the left to reach a point B, as shown below :



And, B represents the integer -11.

$$(- 4) + (- 7) = - 11$$

(vi) On the number line we start from 0 and move 2 steps to the left to reach a point A. Now, starting from A, we move 8 steps to the left to reach a point B, as shown below :

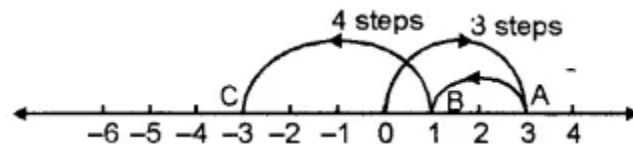


And, B represents the integer - 10

$$(- 2) + (- 8) = - 10$$

(vii) On the number line we start from 0 and move 3 steps to the right to reach a point A. Now, starting from A, we move 2 steps to the left to reach a point B and again starting from left to reach a point B and again starting from B, we move 4 steps to the left to reach a point C, as shown below :

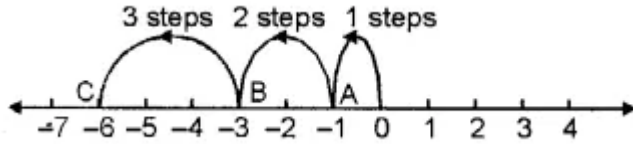
below :



And, C represents the integer - 3

$$3 + (- 2) + (- 4) = - 3$$

(viii) On the number line we start from 0 and move 1 step to the left to reach a point A. Now, starting from A, we move 2 steps to the left to reach a point B and again starting from B, we move 3 steps to the left to reach point C, as shownbelow :

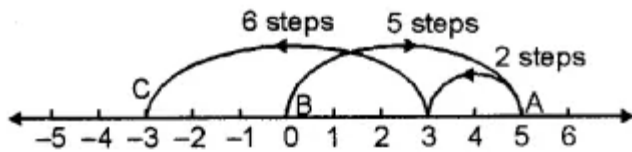


And, C represents the integer -6

$$(-1) + (-2) + (-3) = -6.$$

(ix) On the number line we start from 0 and move 5 steps to the right to reach a point A. Now, starting from A, we move 2 steps to the left to reach a point B and again starting from point B, we move 6 steps to the left to reach a point C, as shown below :

:



And, C represents the integer -3 .

$$5 + (-2) + (-6) = -3$$

Question 2.

Solution:

(i) $(-3) + (-9) = -12$

(Using the rule for addition of integers having like signs)

(ii) $(-7) + (-8) = -15$

(Using the rule for addition of integers having like signs)

(iii) $(-9) + 16 = 7$

(Using the rule for addition of integers having unlike signs)

(iv) $(-13) + 25 = 12$

(Using the rule for addition of integers having unlike signs)

(v) $8 + (-17) = -9$

(Using the rule for addition of integers having unlike signs)

(vi) $2 + (-12) = -10$

(Using the rule for addition of integers having unlike signs)

Question 3.

Solution:

(i) Using the rule for addition of integers with like signs, we get:

$$\begin{array}{r} -365 \\ -87 \\ \hline -452 \end{array}$$

(ii) Using the rule for addition of integers with like signs, we get :

$$\begin{array}{r} - 73 \\ - 687 \\ \hline - 760 \end{array}$$

(iii) Using the rule for addition of integers with like signs, we get :

$$\begin{array}{r} -1065 \\ - 987 \\ \hline - 2052 \end{array}$$

(iv) Using the rule for addition of integers with like signs, we get:

$$\begin{array}{r} -3596 \\ -1089 \\ \hline - 4685 \end{array}$$

Question 4.

Solution:

(i) Using the rule for addition of integers with unlike signs, we get:

$$\begin{array}{r} - 206 \\ + 98 \\ \hline - 108 \end{array}$$

(ii) Using the rule for addition of integers with unlike signs, we get:

$$\begin{array}{r} +178 \\ - 69 \\ \hline 109 \end{array}$$

(iii) Using the rule for addition of integers with unlike signs, we have

$$\begin{array}{r} - 103 \\ + 312 \\ \hline 209 \end{array}$$

(iv) Using the rule for addition of integers with unlike signs, we have

$$\begin{array}{r} -493 \\ +289 \\ \hline -204 \end{array}$$

(iv) Using the rule for addition of integers with unlike signs, we have

$$\begin{array}{r} -493 \\ +289 \\ \hline -204 \end{array}$$

Question 5.

Solution:

(i) Using the rule for addition of integers with unlike signs, we get :

$$\begin{array}{r} +137 \\ -354 \\ \hline -217 \end{array}$$

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

(ii) Using the rule for addition of integers with unlike signs, we get

$$\begin{array}{r} +1001 \\ -13 \\ \hline 988 \end{array}$$

$$\therefore 1001 + (-13) = 988$$

(iv) Using the rule for addition of integers with unlike signs, we get :

$$\begin{array}{r} -36 \\ +1027 \\ \hline 991 \end{array}$$

$$\therefore (-36) + 1027 = 991$$

(v) Using the rule for addition of integers with like signs, we get:

$$\begin{array}{r} -389 \\ -1032 \\ \hline -1421 \end{array}$$

$$\therefore (-389) + (-1032) = -1421$$

(vi) Using the rule for addition of integers with unlike signs, we get :

$$\begin{array}{r} -36 \\ +100 \\ \hline +64 \end{array}$$

$$\therefore (-36) + 100 = 64$$

(vii) Using the rule for addition of integers with unlike signs, we get :

$$\begin{array}{r} +3002 \\ -888 \\ \hline +2114 \end{array}$$

$$\therefore 3002 + (-888) = 2114$$

(viii) We have, $(-18) + 25 + (-37)$

$$= [(-18) + 25] + (-37)$$

$$= 7 + (-37)$$

$$= -30$$

(ix) We have, $-312 + 39 + 192$

$$= (-312) + (39 + 192)$$

$$= (-312) + 231$$

$$= -81$$

(x) We have $(-51) + (-203) + 36 + (-28)$

$$= [(-51) + (-203)] + [36 + (-28)]$$

$$= (-254) + 8$$

$$= -246$$

Question 6.

Solution:

(i) The additive inverse of -57 is 57

(ii) The additive inverse of 183 is -183

(iii) The additive inverse of 0 is 0

(iv) The additive inverse of -1001 is 1001

(v) The additive inverse of 2054 is -2054

Question 7.

Solution:

(i) Successor of $201 = 201 + 1 = 202$

(ii) Successor of $70 = 70 + 1 = 71$

(iii) Successor of $-5 = -5 + 1 = -4$

(iv) Successor of $-99 = -99 + 1 = -98$

(v) Successor of $-500 = -500 + 1 = -499$ Ans.

Question 8.

Solution:

(i) Predecessor of $120 = 120 - 1 = 119$

(ii) Predecessor of $79 = 79 - 1 = 78$

(iii) Predecessor of $-8 = -8 - 1 = -9$

(iv) Predecessor of $-141 = -141 - 1 = -142$

(v) Predecessor of $-300 = -300 - 1 = -301$ Ans.

Question 9.**Solution:**

$$\begin{aligned} & \text{(i) } (-7) + (-9) + 12 + (-16) \\ & = -7 - 9 + 12 - 16 \\ & = -7 - 9 - 16 + 12 \\ & = -32 + 12 \\ & = -20 \end{aligned}$$

$$\begin{aligned} & \text{(ii) } 37 + (-23) + (-65) + 9 + (-12) \\ & = 37 - 23 - 65 + 9 - 12 \\ & = 37 + 9 - 23 - 65 - 12 \\ & = 46 - 100 \\ & = -54 \end{aligned}$$

$$\begin{aligned} & \text{(iii) } (-145) + 79 + (-265) + (-41) + 2 \\ & = -145 + 79 - 265 - 41 + 2 \\ & = 79 + 2 - 145 - 265 - 41 \\ & = 81 - 451 \\ & = -370 \end{aligned}$$

$$\begin{aligned} & \text{(iv) } 1056 + (-798) + (-38) + 44 + (-1) \\ & = 1056 - 798 - 38 + 44 - 1 \\ & = 1056 + 44 - 798 - 38 - 1 \\ & = 1100 - 837 \\ & = 263 \text{ Ans.} \end{aligned}$$

Question 10.**Solution:**

Distance travelled from Patna to its north = 60 km
Distance travelled from that place to south of it = 90 km
Distance of the final place to Patna = 60 - 90
= -30 km
= 30 km south
Ans.

Question 11.**Solution:**

Total amount of pencils purchased = Rs. 30 + Rs. 25
= Rs 55
Total amount of pens purchased = Rs. 90
Total cost price = Rs. 55 + Rs. 90
= Rs. 145
Total sale price of pencils and pens = Rs 20 + Rs. 70
= Rs. 90
Loss = cost price - selling price
= Rs. 145 - Rs. 90
= Rs. 55 Ans.

Question 12.

Solution:

(i) True.

(ii) False : As if positive integer is greater then it will be positive.

(iii) True : As $(-a + a = 0)$.

(iv) False : As the sum of three integers can be zero or non-zero.

(v) False : As $|-5| = 5$ and $|-3| = 3$ and $5 \not< 3$.

(vi) False : $|8 - 5| = |3| = 3$ and $|8| + |-5| = 8 + 5 = 13$.

Question 13.

Solution:

(i) $a + 6 = 0$

Subtracting 6 from both sides,

$$a + 6 - 6 = 0 - 6$$

$$\Rightarrow a = -6$$

$$a = -6.$$

(ii) $5 + a = 0$

Subtracting 5 from both sides,

$$5 + a - 5 = 0 - 5$$

$$\Rightarrow a = -5$$

$$a = -5$$

(iii) $a + (-4) = 0$

Adding 4 to both sides,

$$a + (-4) + 4 = 0 + 4$$

$$\Rightarrow a = 4$$

$$a = 4$$

(iv) $-8 + a = 0$

Adding 8 to both sides,

$$-8 + a + 8 = 0 + 8$$

$$\Rightarrow a = 8$$

$$a = 8 \text{ Ans.}$$

Exercise- 4'C'

Question 1.

Solution:

(i) We have : $-34 - 18 = -52$

(ii) We have : $25 - (-15) = 25 + 15 = 40$

(iii) We have : $-43 - (-28) = -43 + 28 = -15$

(iv) We have : $(-37) - 68 = (-37) + (-68) = -105$

(v) We have : $0 - 219 = 0 + (-219) = -219$

(vi) We have : $0 - (-92) = 0 + 92 = 92$

(vii) We have : $- 250 - (- 135) = (- 250) + 135 = - 115$

(viii) We have : $- 287 - (- 2768) = (- 287) + 2768 = 2481$

(ix) We have: $- 271 - 6240 = (- 271) + (- 6240) = - 6511$

(x) We have : $6250 - (- 3012) = 6250 + 3012 = 9262$

Question 2.

Solution:

The sum of $- 1050$ and 813 .

$$= (- 1050) + 813 = - 237$$

$$\text{Required number} = - 23 - (- 237)$$

$$= (- 23) + 237 = 214$$

Question 3.

Solution:

The sum of $- 250$ and 138

$$= (- 250) + 138 = - 112$$

The sum of 136 and $- 272$

$$= 136 + (- 272) = - 136$$

$$\text{Required number} = - 136 - (- 112)$$

$$= (- 136) + 112 = - 24$$

Question 4.

Solution:

The sum of 33 and $- 47$

$$= 33 + (- 47)$$

$$= - 14$$

$$\text{Required number} = - 14 - (- 84)$$

$$= (- 14) + 84$$

$$= 70$$

Question 5.

Solution:

The difference of $- 8$ and $- 68$

$$= - 8 - (- 68)$$

$$= (- 8) + 68 = 60$$

$$\text{Required sum} = 60 + (- 36)$$

$$= 24$$

Question 6.

Solution:

(i) We have :

$$[37 - (- 8)] + [11 - (- 30)]$$

$$= (37 + 8) + (11 + 30)$$

$$= 45 + 41$$
$$= 86$$

$$(ii) [-13 - (-17)] + [-22 - (-40)]$$
$$= (-13 + 17) + (-22 + 40)$$
$$= 4 + 18$$
$$= 22$$

Question 7.

Solution:

We have :

$$34 - (-72) = 34 + 72 = 106 \text{ and } (-72) - 34 = (-72) + (-34)$$
$$= -106$$

Clearly, $34 - (-72)$ and $(-72) - 34$ are not equal.

Question 8.

Solution:

The sum of two integers = -13

One number = 170

The other number = -13 - 170

$$= (-13) + (-170)$$

$$= -183$$

Question 9.

Solution:

The sum of two integers = 65

One number = -47

The other number = 65 - (-47)

$$= 65 + 47$$

$$= 112$$

Question 10.

Solution:

(i) True

(ii) True

(iii) The given statement is

$$-14 > -8 - (-7)$$

$$-14 > -8 + 7$$

$-14 > -1$ which is not true.

(iv) The given statement is $-5 - 2 > -8$

$$(-5) + (-2) > -8$$

$-7 > -8$ which is true

The given statement is true.

$$(v) \text{ The given statement is } (-7) - 3 = (-3) - (-7)$$

$$(-7) + (-3) = (-3) + 7$$

$$-10 = 4$$

which is not true.

The given statement is false.

Question 11.

Solution:

The vertical distance between A and B = Distance of point A above sea level + distance of point B below sea level.

$$= 5700 \text{ m} + 39600 \text{ m}$$

$$= 45300 \text{ m.}$$

The required distance between A and B

$$= 45300 \text{ metres.}$$

Question 12.

Solution:

Temperature at 6 p.m. = 1°C

Temperature at mid-night = -4°C

Required temperature fall = $1^{\circ}\text{C} - (-4^{\circ}\text{C})$

$$= 1^{\circ}\text{C} + 4^{\circ}\text{C}$$

$$= 5^{\circ}\text{C.}$$

Exercise- 4'D'

Question 1.

Solution:

$$(i) 15 \text{ by } 9 = 15 \times 9 = 135$$

$$(ii) 18 \text{ by } -7 = 18 \times (-7) = -126$$

$$(iii) 29 \text{ by } -11 = 29 \times (-11) = -319$$

$$(iv) -18 \text{ by } 13 = (-18) \times 13 = -234$$

$$(v) -56 \text{ by } 16 = (-56) \times 16 = -896$$

$$(vi) 32 \text{ by } -21 = 32 \times (-21) = -672$$

$$(vii) -57 \times 0 = (-57) \times 0 = 0$$

$$(viii) 0 \text{ by } -31 = 0 \times (-31) = 0$$

$$(ix) -12 \text{ by } -9 = (-12) \times (-9) = 108$$

$$(x) -746 \text{ by } -8 = (-746) \times (-8) = 5968$$

$$(xi) 118 \text{ by } -7 = 118 \times (-7) = -826$$

$$(xii) -238 \text{ by } -143 = (-238) \times (-143) = 238 \times 143 = 34034$$

$$\begin{array}{r} 238 \\ 143 \\ \hline 714 \\ 9520 \\ 23800 \\ \hline 34034 \end{array}$$

Question 2.

Solution:

$$(i) (-2) \times 3 \times (-4) = [(-2) \times 3] \times (-4) = (-6) \times (-4) = 24$$

$$(ii) 2 \times (-5) \times (-6) = 2 \times [(-5) \times (-6)] = 2 \times 30 = 60$$

$$(iii) (-8) \times 3 \times 5 = (-8) \times (3 \times 5) = (-8) \times 15 = -120$$

$$(iv) 8 \times 7 \times (-10) = (8 \times 7) \times (-10) = 56 \times (-10) = -560$$

$$(v) (-3) \times (-7) \times (-6) = [(-3) \times (-7)] \times (-6) = 21 \times (-6) = -126$$

$$(vi) (-8) \times (-3) \times (-9) = (-8) \times [(-3) \times (-9)] = (-8) \times 27 = -216$$

Question 4.

Solution:

(i) We have :

$$18 \times [9 + (-7)] = 18 \times 2 = 36$$

$$18 \times 9 + 18 \times (-7)$$

$$= (18 \times 9) + [18 \times (-7)]$$

$$= 162 - 126$$

$$= 36$$

$$18 \times [9 \times (-7)] = 18 \times 9 + 18 \times (-7) \text{ is verified.}$$

(ii) We have :

$$(-13) \times [(-6) \times (-19)]$$

$$= (-13) \times (-25) = 325$$

$$(-13) \times (-6) + (-13) \times (-9)$$

$$= [(-13) \times (-6)] + [(-13) \times (-9)]$$

$$= 78 + 247 = 325$$

$$(-13) \times [(-6) + (-19)]$$

$$= (-13) \times (-6) + (-13) \times (-19) \text{ is verified.}$$

Question 5.

Solution:

The complete multiplication table is given below

X	-3	-2	-1	0	1	2	3
-3	9	6	3	0	-3	-6	-9
-2	6	4	2	0	-2	-4	-6
-1	3	2	1	0	-1	-2	-3
0	0	0	0	0	0	0	0
1	-3	-2	-1	0	1	2	3
2	-6	-4	-2	0	2	4	6
3	-9	-6	-3	0	3	6	9

Question 6.

Solution:

- (i) True
- (ii) False
- (iii) True
- (iv) True

Question 7.

Solution:

$$\begin{aligned} & \text{(i) } (-9) \times 6 + (-9) \times 4 \\ & = (-9) \times (6 + 4) \\ & \text{(By distributive law)} \\ & = (-9) \times 10 \\ & = -90 \end{aligned}$$

$$\begin{aligned} & \text{(ii) } 8 \times (-12) + 7 \times (-12) \\ & = (8 + 7) \times (-12) \\ & \text{(By distributive law)} \\ & = 15 \times (-12) \\ & = -180 \end{aligned}$$

$$\begin{aligned} & \text{(iii) } 30 \times (-22) + 30 \times (14) \\ & = 30 \times [(-22) + 14] \\ & \text{(By distributive law)} \\ & = 30 \times (-8) \\ & = -240 \end{aligned}$$

$$\begin{aligned} & \text{(iv) } (-15) \times (-14) + (-15) \times (-6) \\ & = (-15) \times [(-14) + (-6)] \\ & \text{(By distributive law)} \\ & = (-15) \times (-20) \\ & = 300 \end{aligned}$$

$$\begin{aligned} & \text{(v) } 43 \times (-33) + 43 \times (-17) \\ & = 43 \times [(-33) + (-17)] \end{aligned}$$

(By distributive law)

$$= 43 \times (-50) = -2150$$

$$(vi) (-36) \times 72 + (-36) \times 28$$

$$= (-36) \times (72 + 28)$$

By distributive law)

$$= (-36) \times 100$$

$$= -3600$$

$$(vii) (-27) \times (-16) + (-27) \times (-14)$$

$$= (-27) \times [(-16) + (-14)]$$

(By distributive law)

$$= (-27) \times (-30)$$

$$= 810$$

Exercise -4'E'

Question 1.

Solution:

$$(i) 85 \div (-17) = 85 - 17 = -5$$

$$(ii) (-72) \div 18 = -72 \div 18 = -4$$

$$(iii) (-80) \div 16 = -80 \div 16 = -5$$

$$(iv) (-121) \div 11 = -121 \div 11 = -11$$

$$(v) 108 \div (-12) = 108 - 12 = -9$$

$$(vi) (-161) \div 23 = -161 \div 23 = -7$$

$$(vii) (-76) \div (-19) = -76 - 19 = 4$$

$$(viii) (-147) + (-21) = -147 - 21 = 7$$

$$(ix) (-639) \div (-71) = -639 - 71 = 9$$

$$(x) (-15625) \div (-125) = -15625 - 125$$

$$\begin{array}{r} 125 \overline{) 15625} \quad (125 \\ \underline{125} \\ 312 \\ \underline{250} \\ 625 \\ \underline{625} \\ 0 \end{array}$$

$$\therefore (-15625) \div (-125) = 125$$

$$(xi) 2067 \div (-1) = 2067 - 1 = -2067$$

$$(xii) 1765 \div (-1765) = 1765 - 1765 = -1$$

$$(xiii) 0 \div (-278) = 0 - 278 = 0$$

$$(xiv) 3000 \div (-100) = 3000 - 100 = -30$$

Question 2.

Solution:

$$(i) 80 \div (\dots) = -5$$

Let $80 \div a = -5$
then, $a = 80 \div (-5) = -16$
 $80 \div (-16) = -5$

(ii) $-84 + (\dots) = -7$
Let $-84 \div a = -7$
then $a = -84 \div -7 = 12$
 $-84 \div 12 = -7$

(iii) $(\dots) \div (-5) = 25$
Let $a \div (-5) = 25$
 $a = 25 \times (-5) = -125$
 $(-125) \div (-5) = 25$

(iv) $(\dots) \div 372 = 0$
Let $a \div 372 = 0$
Then $a = 0 \times 372 = 0$
 $(0) \div 372 = 0$
(v) $(\dots) \div 1 = -186$
Let $a \div 1 = -186$

Then $a = -186 \times 1 = -186$
 $(-186) \div 1 = -186$
(vi) $(\dots) \div 17 = -2$
Let $a \div 17 = -2$

Then $a = -2 \times 17 = -34$
 $(-34) \div 17 = -2$
(vii) $(\dots) \div 165 = -1$
Let $a \div 165 = -1$

Then $a = -1 \times 165 = -165$
 $(-165) \div 165 = -1$
(viii) $(\dots) + (-1) = 73$
Let $a + (-1) = 73$
Then $a = 73 + 1 = 74$
 $(74) + (-1) = 73$

(ix) $1 \div (\dots) = -1$
Let $1 \div a = -1$
Then $a = 1 \div -1 = -1$
 $1 \div (-1) = -1$ Ans.

Question 3.

Solution:

- (i) True : as if zero is divided by any non-zero integer, then quotient is always zero.
- (ii) False : As division by zero is not admissible.
- (iii) True : As dividing one integer by another having opposite signs is negative.
- (iv) False : As dividing one integer by another having the same signs is positive not negative.
- (v) True : As dividing one integer by another with same sign is always

positive.

(vi) True : As dividing one integer by another having opposite signs is always negative.

(vii) True : As dividing one integer by another having opposite signs is always negative.

(viii) True : As dividing one integer by another having opposite signs is always negative.

(ix) False : As dividing one integer by another having same signs is always positive not negative

Exercise-4'F'

Question 1.

Solution:

(b) Because $-4 < -3$.

Question 2.

Solution:

Because $-3 - 2 = -5$.

Question 3.

Solution:

(c) Because $4 + (-5) = -1$.

Question 4.

Solution:

(a) Because $-7 - 2 = -9$.

Question 5.

Solution:

(b) Because $7 + |-3| = 7 + 3 = 10$.

Question 6.

Solution:

(c) Because $-42 + (-35) = -42 - 35 = -77$.

Question 7.

Solution:

(b) Because $(-37) + 6 = -31$.

Question 8.

Solution:

(c) Because $49 + (-27) = 49 - 27 = 22$.

Question 9.

Solution:

(c) Because successor of $-18 = -18 + 1 = -17$.

Question 10.

Solution:

(b) Because predecessor of -16 is $= -16 - 1 = -17$.

Question 11.

Solution:

(a) Because additive inverse of -5 is $= -(-5) = 5$.

Question 12.

Solution:

(b) Because $-12 - (-5) = -12 + 5 = -7$

Question 13.

Solution:

(b) Because $5 - (-8) = 5 + 8 = 13$.

Question 14.

Solution:

(c) Because other $-25 - 30 = -55$.

Question 15.

Solution:

(a) Because other $20 - (-5) = 20 + 5 = 25$.

Question 16.

Solution:

(b) Because other $-13 - 8 = -21$. **Question 17.**

Solution:

(b) Because $0 - (-8) = 0 + 8 = 8$

Question 18.

Solution:

(c) Because $8 + (-8) = 8 - 8 = 0$.

Question 19.

Solution:

(c) Because $-6 + 4 - (-3) = -6 + 4 + 3 = 7 - 6 = 1$.

Question 20.

Solution:

(c) Because $6 - (-4) = 6 + 4 = 10$.

Question 21.

Solution:

(a) Because $(-7) + (-9) + 12 + (-16) = -7 - 9 + 12 - 16 = -32 + 12 = -20$.

Question 22.

Solution:

(c) Because $-4 - (8) = -4 - 8 = -12$.

Question 23.

Solution:

(c) Because $-6 - (-9) = -6 + 9 = 3$.

Question 24.

Solution:

(c) Because $10 - (-5) = 10 + 5 = 15$.

Question 25.

Solution:

(b) Because $(-6) \times 9 = 54$.

Question 26.

Solution:

(a) Because $(-9) \times 6 + (-9) \times 4$
 $= -54 - 36 = -90$.

Question 27.

Solution:

(b) Because $36 + (-9) = 36 - 9 = 27$.