Integers

EXERCISE 1 (A)

Question 1.
Evaluate:

1. **427 x 8 + 2 x 427**
2. **394 x 12 + 394 x (-2)**
3. **558 x 27 + 3 x 558**

Solution:

1. 427 x 8 + 2 x 427 = 427 x (8 + 2) (Distributive property)
   = 427 x 10
   = 4270
2. 394 x 12 + 394 x (-2) = 394 x (12-2) (Distributive property)
   = 394 x 10
   = 3940
3. 558 x 27 + 3 x 558 = 558 x (27 + 3) (Distributive property)
   = 558 x 30
   = 16740

Question 2.
Evaluate:

1. **673 x 9 + 673**
2. **1925 x 101 – 1925**

Solution:

1. 673 x 9 + 673 = 673 x (9 + 1) (Distributive property) = 673 x 10 = 6730
2. 1925 x 101 – 1925 = 1925 x (101 – 1) (Distributive property) = 1925 x 100 = 192500

Question 3.
Verify:

1. **37 x {8 +(-3)} = 37 x 8 + 37 x – (3)**
2. **(-82) x {(-4) + 19} = (-82) x (-4) + (-82) x 19**
3. **{7 – (-7)} x 7 = 7 x 7 – (-7) x 7**
4. **{(-15) – 8} x -6 = (-15) x (-6) – 8 x (-6)**

Solution:

1. **37 x {8 + (-3)} = 37 x 8 + 37 x – (3)**
   L.H.S. = 37 x {8 + (-3)}
   = 37 x {8-3}
   = 37 x {5}
   = 37 x 5
   = 185
   R.H.S. = 37 x 8 + 37 – 3
   = 37 x (8 – 3)
   = 37 x 5
   = 185
   Hence, L.H.S. = R.H.S.
2. **(-82) x {(-4) + 19} = (-82) x (-4) + (-82) x 19**
   L.H.S. = (-82) x {(_4) + 19}
   = (-82) x {-4 + 19}
   = (-82)x {15}
   = -82 x 15
   =-1230
   R.H.S. = (-82) x (-4) + (-82) x 19
   = -82 x (-4 + 19)
   = -82 x 15
   =-1230
   Hence, L.H.S. = R.H.S.
3. **{7 – (-7)}. x 7 = 7 x 7 – (-1) x 7**
   L.H.S. = {7 – (-7)} x 7
   = {7 + 7} x 7
   = {14} x 7
   = 14 x 7
   = 98
   R.H.S. = 7 x 7 – (-7) x 7
   =7 x 7+7 x 7 =
   7 x (7 + 7)
   = 7 x (14)
   = 98
   Hence, L.H.S. = R.H.S.
4. **{(-15) – 8} x -6 = (-15) x (-6) – 8 x (-6)**
   L.H.S. = {(-15)-8} x-6
   = {-15-8} x-6
   = {-23} x-6
   = -23 x- 6
   = 138
   R.H.S. = (-15) x (-6) – 8 x (-6)
   = -6 x (-15-8)
   = -6 x -23

= 138
Hence, L.H.S. = R.H.S.

Question 4.
Evaluate:

1. **15 x 8**
2. **15 x (-8)**
3. **(-15) x 8**
4. **(-15) x -8**

Solution:

1. 15 x 8= 120
2. 15 x (-8) = -120
3. (-15) x 8 = -120
4. (-15) x -8 = 120
   (Since the number of negative integers in the product is even)

Question 5.
Evaluate:

1. **4 x 6 x 8**
2. **4 x 6 x (-8)**
3. **4 x (-6) x 8**
4. **(-4) x 6 x 8**
5. **4 x (-6) x (-8)**
6. **(-4) x (-6) x 8**
7. **(-4) x 6 x (- 8)**
8. **(-4) x (-6) x (-8)**

Solution:

1. 4 x 6 x 8 = 192
2. 4 x 6 x (-8) = -192
   (It have one negative factor)
3. 4 x (-6) x 8 = -192
   (It have one negative factor)
4. (-4)x 6 x 8 = -192
   (It have one negative factor)
5. 4 x (-6) x (-8) = 192
   (It have two negative factors)
6. (-4) x (-6) x 8 = 192
   (It have two negative factors)

7. (-4) x 6 x (-8) = 192
   (It have two negative factors)
8. (-4) x (-6) x (-8) = -192
   (It have three negative factors)

Question 6.
Evaluate:

1. **2 x 4 x 6 x 8**
2. **2 x (-4) x 6 x 8**
3. **(-2) x 4 x (-6) x 8**
4. **(-2) x (-4) X 6 x (-8)**
5. **(-2) x (-4) x (-6) x (-8)**

Solution:

1. 2 x 4 x 6 x 8 = 384
2. 2 x (-4) x 6 x 8 = -384
   (Number of negative integer in the product is odd)
3. (-2) x 4 x (-6) x 8 = 384
   (Number of negative integer in the product is even)
4. (-2) x (-4) x 6 x (-8) = -384
   (Number of negative integer in the product is odd)
5. (-2) x (-4) x (-6) x (-8) = 384
   (Number of negative integer in the product is even)

Question 7.
Determine the integer whose product with '-1' is:

1. **-47**
2. **63**
3. **-1**
4. **0**

Solution:

1. -1 x 47 = -47
   Hence, integer is 47
2. -1 x -63 = 63
   Hence, integer is -63
3. -1 x 1 = -1
   Hence, integer is 1
4. -1 x 0 = 0
   Hence, integer is 0

Question 8.

Eighteen integers are multiplied together. What will be the sign of their product, if:

1. **15 of them are negative and 3 are positive?**
2. **12 of them are negative and 6 are positive?**
3. **9 of them are positive and the remaining are negative?**
4. **all are negative?**

Solution:

1. Since out of eighteen integers, 15 of them are negative, which is odd number. Hence, sign of product will be negative (-).
2. Since out of eighteen integers 12 of them are negative, which is even number. Hence sign of product will be positive (+).
3. Since out of eighteen integers 9 of them are negative, which is odd number. Hence, sign of product will be negative (-).
4. Since all are negative, which is even number. Hence sign of product will be positive (+).

Question 9.

Find which is greater?

1. **(8 + 10) x 15 or 8 + 10 x 15**
2. **12 x (6 – 8) or 12 x 6 – 8**
3. **{(-3) – 4} x (-5) or (-3) – 4 x (-5)**

Solution:

1. (8 + 10) x 15 or 8 + 10 x 15
   (8 + 10) x 15 = 18 x 15 = 270
   8 + 10 x 15 = 8 + 150 = 158
   ∴(8 + 10) x 15 > 8 + 10 x 15
2. 12 x (6 – 8) or 12 x 6 – 8
   12 x (6 – 8) = 12 (-2) = -24
   12 x 6 – 8 = 72 – 8 = 64
   ∴12 x 6 – 8 > 12 x (6-8)
3. {(-3) – 4} x (-5) or (-3) – 4 x (-5)
   {(-3) – 4} x (-5) = {-3 – 4} x (-5) = -7 x -5 = 35
   (-3) – 4 x (-5) = -7 x (-5) = 35
   ∴{(-3) – 4} x (-5) = (-3) – 4 x (-5)

Question 10.

State, true or false :

1. **product of two integers can be zero.**
2. **product of 120 negative integers and 121 positive integers is negative.**
3. **a x (b + c) = a x b + c**
4. **(b – c) x a=b – c x a**

Solution:

1. False.
2. False.
   Correct : Since 120 integers are even numbers, hence product will be positive and for 121 integers are positive in numbers, hence product will be positive.
3. False.
   Correct :a x (b + c) ≠ a x b + c
   ab + ac ≠ ab + c
4. False.
   Correct: (b – c) x a ≠ b – c x a
   ab – ac ≠ b – ca

EXERCISE 1 (B)

Question 1.
Divide:
(i) 117 by 9
(ii) (-117) by 9
(iii) 117 by (-9)
(iv) (-117) by (-9)
(v) 225 by (-15)
(vi) (-552) ÷ 24
(vii) (-798) by (-21)
(viii) (-910) ÷ – 26

Solution :

$$(i)\ 117 \text{ by } 9 = \frac{117}{9} = \frac{13\times 9}{9} = 13$$

$$(ii)\ (-117) \text{ by } 9 = \frac{-117}{9} = \frac{-13\times 9}{9} = -13$$

$$(iii)\ 117 \text{ by } (-9) = \frac{117}{-9} = \frac{13\times 9}{-9} = -13$$

(iv) (-117) by (-9)

$$= \frac{-117}{-9} = \frac{117}{9} = \frac{13\times 9}{9} = 13$$

$$(v)\ 225 \text{ by } (-15) = -\frac{225}{15} = -\frac{15\times 15}{15} = -15$$

$$(vi)\ (-552) \div 24 = -\frac{552}{24} = -\frac{23\times 24}{24} = -23$$

(vii) (-798) by (-21)

$$= \frac{-798}{-21} = \frac{798}{21} = \frac{38\times 21}{21} = 38$$

$$(viii)\ (-910) \div 26 = -\frac{910}{26} = -\frac{35\times 26}{26} = -35$$

Question 2.

Evaluate:

(i) (-234) ÷ 13
(ii) 234 ÷ (-13)
(iii) (-234) ÷ (-13)
(iv) 374 ÷ (-17)
(v) (-374) ÷ 17
(vi) (-374) ÷ (-17)
(vii) (-728) ÷ 14
(viii) 272 ÷ (-17)

Solution:

$$(i)\ (-234) \div 13 = \frac{-234}{13} = \frac{-18 \times 13}{13} = -18$$

$$(ii)\ 234 \div (-13) = \frac{234}{-13} = \frac{18 \times 13}{-13} = -18$$

$(iii)\ (-234) \div (-13)$

$$= \frac{-234}{-13} = \frac{234}{13} = \frac{18 \times 13}{13} = 18$$

$$(iv)\ 374 \div (-17) = \frac{374}{-17} = \frac{22 \times 17}{-17} = -22$$

$$(v)\ (-374) \div 17 = -\frac{374}{17} = -\frac{22 \times 17}{17} = -22$$

$(vi)\ (-374) \div (-17)$

$$= \frac{-374}{-17} = \frac{374}{17} = \frac{22 \times 17}{17} = 22$$

$$(vii)\ (-728) \div 14 = -\frac{728}{14} = -\frac{52 \times 14}{14} = -52$$

$$(viii)\ 272 \div (-17) = -\frac{16 \times 17}{17} = -16$$

Question 3.

Find the quotient in each of the following divisions:

(i) 299 ÷ 23

(ii) 299 ÷ (-23)

(iii) (-384) ÷ 16

(iv) (-572) ÷ (-22)

(v) 408 ÷ (-17)

Solution:

$$(iv)\ (-572) \div (-22) = \frac{-572}{-22}$$

$$= \frac{572}{22} = \frac{26 \times 22}{22} = 26$$

$$(v)\ 408 \div (-17) = -\frac{408}{17} = -\frac{24 \times 17}{17} = -24$$

$$(i)\ 299 \div 23 = \frac{299}{23} = \frac{23 \times 13}{23} = 13$$

$$(ii)\ 299 \div (-23) = -\frac{299}{23} = -\frac{23 \times 13}{23} = -13$$

$$(iii)\ (-384) \div 16 = -\frac{384}{16} = -\frac{24 \times 16}{16} = -24$$

Question 4.

Divide:

(i) 204 by 17

(ii) 152 by-19

(iii) 0 by 35

(iv) 0 by (-82)

(v) 5490 by 10

(vi) 762800 by 100

Solution:

$$(i)\ 204 \text{ by } 17 = \frac{204}{17} = \frac{12 \times 17}{17} = 12$$

$$(ii)\ 152 \text{ by } -19 = -\frac{152}{19} = -\frac{8 \times 19}{19} = -8$$

$$(iii)\ 0 \text{ by } 35 = \frac{0}{35} = 0$$

$$(iv)\ 0 \text{ by } (-82) = -\frac{0}{82} = 0$$

$$(v)\ 5490 \text{ by } 10 = \frac{5490}{10} = \frac{549 \times 10}{10} = 549$$

$$(vi)\ 762800 \text{ by } 100 = \frac{762800}{100} = 7628$$

Question 5.
State, true or false :

1. **0 ÷ 32 = 0**
2. **0 ÷ (-9) = 0**
3. **(-37) ÷ 0 = 0**
4. **0 ÷ 0 = 0**

Solution:

1. True.
2. True.
3. False.
   Correct: It is not meaningful (defined)
4. False.
   Correct: It is not defined.

Question 6.
Evaluate:
(i) 42 ÷ 7 + 4
(ii) 12+18 ÷ 3
(iii) 19 – 20 ÷ 4
(iv) 16 – 5 x 3+4
(v) 6 – 8 – (-6) ÷ 2
(vi) 13 -12 ÷ 4 x 2
(vii) 16 + 8 ÷ 4- 2 x 3
(viii) 16 ÷ 8 + 4 – 2 x 3
(ix) 16 – 8 + 4 ÷ 2 x 3
(x) (-4) + (-12) ÷ (-6)
(xi) (-18) + 6 ÷ 3 + 5
(xii) (-20) x (-1) + 14 – 7

Solution:

(*i*) $42 \div 7 + 4$

$= \frac{42}{7} + 4 = 6 + 4 = 10$

(*ii*) $12 + 18 \div 3$

$= 12 + \frac{18}{3} = 12 + 6 = 18$

(*iii*) $19 - 20 \div 4$

$= 19 - \frac{20}{4} = 19 - 5 = 14$

(*iv*) $16 - 5 \times 3 + 4$

$= 16 - 15 + 4 = 16 - 19 = -3$

(*v*) $6 - 8 - (-6) \div 2$

$= 6 - 8 - \left(\frac{-6}{2}\right) = 6 - 8 - (-3)$

$= 6 - 8 + 3 = 9 - 8 = 1$

(*vi*) $13 - 12 \div 4 \times 2$

$= 13 - \frac{12}{4} \times 2 = 13 - 3 \times 2$

$= 13 - 6 = 7$

(*vii*) $16 + 8 \div 4 - 2 \times 3$

$= 16 + \frac{8}{4} - 2 \times 3 = 16 + 2 - 2 \times 3$

$= 16 + 2 - 6 = 18 - 6 = 12$

(*viii*) $16 \div 8 + 4 - 2 \times 3$

$= \frac{16}{8} + 4 - 2 \times 3 = 2 + 4 - 6$

$= 6 - 6 = 0$

(*ix*) $16 - 8 + 4 \div 2 \times 3$

$= 16 - 8 + \frac{4}{2} \times 3 = 16 - 8 + 2 \times 3$

$= 16 - 8 + 6$

$= 16 + 6 - 8 = 22 - 8 = 14$

(*x*) $(-4) + (-12) \div (-6)$

$= (-4) + \left(\frac{-12}{-6}\right) = (-4) + 2$

$= -4 + 2 = -2$

(*xi*) $(-18) + 6 \div 3 + 5$

$= (-18) + \frac{6}{3} + 5 = (-18) + 2 + 5$

$= -18 + 7 = -11$

(*xii*) $(-20) \times (-1) + 14 \div 7$

$= (-20) \times (-1) + \frac{14}{7} = (-20) \times (-1) + 2$

$= 20 + 2 = 22$

EXERCISE 1 (C)

Question 1.

Evaluate:

18-(20- 15 ÷ 3)

Solution:

18-(20- 15 ÷ 3)

$= 18 - \left(20 - \frac{15}{5}\right)$

= 18 – (20 – 5)

= 18 – 20 + 5

= 18 + 5 – 20

= 23 – 20

= 3

Question 2.
-15+ 24÷ (15-13)
Solution:
-15+ 24÷ (15- 13)
= -15 + 24 ÷ 2
= -15 + 12
= -3

Question 3.
35 – [15 + {14-(13 + $\overline{2-1+3}$)}]
Solution:
35- [15 + {14-(13 + $\overline{2-1+3}$)}]
= 35-[15+ 14-(13+4)]
= 35 — [15 + 14 – (13 + 4}]
= 35-{15 + 14-17]
= 35-15-14+ 17
= 35 + 17-15-14
= 52 – 29
= 23

Question 4.
27- [13 + {4-(8 + 4 – $\overline{1+3}$)}]
Solution:
27- [13 + {4-(8 + 4 – $\overline{1+3}$)}]
= 27-[13 +{4-(8+ 4-4)}]
= 27-[13 + {4-8}]
= 27 – [13 + (-4)]
= 21 – [9]
= 27-9
= 18

Question 5.
32 – [43-{51 -(20 – $\overline{18-7}$)}]
Solution:
32 – [43 – {51 – (20 – $\overline{18-7}$)}]
= 32-[43 – {51 -(20- 11)}]
= 32-[43-{51 -9}]
= 32-[43 -42]
= 32-1
=31

Question 6.
46-[26-{14-(15-4÷ 2 x 2)}]
Solution:
46 – [26 – {14 – (15 – 4 ÷ 2 x 2)}]

= 46-[26- {14-(15-2 x 2)}]
= 46-[26- {14-(15 -4)}]
= 46-[26- {14- 11}]
= 46 – [26 – 3]
= 46 – 23
= 23

Question 7.
45 – [38 – {60 ÷ 3 – (6 – 9 ÷ 3) ÷ 3}]
Solution:
45 – [38 – {60 ÷ 3 – (6 – 9 ÷ 3) ÷ 3}]
= 45-[38- {60 ÷ 3-(6-3)÷ 3}]
= 45-[38 -{20-3 ÷ 3}]
= 45-[38- {20-1}]
= 45-[38- 19]
= 45-19
= 26

Question 8.
17- [17 — {17 — (17 – $\overline{17 - 17}$)}]
Solution:
17- [17-{17-(17 –$\overline{17 - 17}$)}]
= 17-[17-{17-(17-0)}]
= 17 – [17 – {17 — 17}]
= 17 — [17 — 0]
= 17-17
= 0

Question 9.
2550 – [510 – {270 – (90 – $\overline{80 + 7}$)}]
Solution:
2550- [510-{270-(90-$\overline{80 + 7}$)}]
= 2550 – [510 – {270 – (90 – 87)}]
= 2550 -[510- {270 -3}]
= 2550-[510-267]
= 2550 – 243
= 2307

Question 10.
30+ [{-2 x (25-$\overline{13 - 3}$)}]
Solution:
30+ [{-2 x (25-$\overline{13 - 3}$)}]
= 30 + [{-2 x (25 – 10)}]
= 30 + [{-2 x 15}]
= 30 + [-30]

= 30-30
= 0

Question 11.
88-{5-(-48)+ (-16)}
Solution:
88- {5-(-48)+ (-16)}
=88 – $\left\{5-\frac{(-48)}{-16}\right\}$
= 88 – {5-3}
= 88 – 2
= 86

Question 12.
9 x (8-$\overline{3+2}$) – 2 (2 + $\overline{3+3}$)
Solution:
9 x (8-$\overline{3+2}$) -2(2 + $\overline{3+3}$)
= 9 x (8 – 5) – 2(2 + 6)
= 9 x 3 – 2 x 8
= 27- 16
= 11

Question 13.
2 – [3 – {6 – (5 – $\overline{4-3}$)}]
Solution:
2 – [3 – {6 – (5 – $\overline{4-3}$)}]
⇒ 2 – [3 – {6 – (5 – 1)}]
⇒ 2 – [3 – {6 – 4}]
⇒2 – (3 – 2)
⇒2-1 = 1

EXERCISE 1 (D)

Question 1.
The sum of two integers is -15. If one of them is 9, find the other.
Solution:
Sum of two integers = -15
One integer = 9
∴ Second integer = -15 – 9
= -(15 + 9)
= -24

Question 2.
The difference between an integer and -6 is -5. Find the values of x.

Solution:
The difference between an integer
= x-(-6) = -5
∴ Value of
⇒ x – (-6) = -5
⇒ x + 6 = -5
x = -5 – 6
x = -11

Question 3.
The sum of two integers is 28. If one integer is -45, find the other.
Solution:
Sum of two integers = 28
One integer = -45
∴ Second integer = 28 – (-45)
= 28 + 45
= 73

Question 4.
The sum of two integers is -56. If one integer is -42, find the other.
Solution:
Sum of two integers = -56
One integer = -42
∴Second integer = -56 – (-42)
= -56+ 42
=-14

Question 5.
The difference between an integer x and (-9) is 6. Find all possible values ofx.
Solution:
The difference between an integer x – (-9) = 6 or -9 – x = 6
∴ Value of x
⇒ x – (-9) = 6 or ⇒ -9 – x = 6
⇒ x + 9 = 6 or Answer-x = 6 + 9
⇒ x = 6 – 9 or ⇒ -x = 15
⇒x = -3 or ⇒ x = -15
Hence, possible values ofx are -3 and -15.

Question 6.
Evaluate:

1. **(-1) x (-1) x (-1) x ….60 times.**
2. **(-1) x (-1) x (-1) x (-1) x …. 75 times.**

Solution:

1. 1 (because (-1) is multiplied even times.)
2. -1 (because (-1) is multiplied odd times.)

Question 7.
Evaluate:

1. **(-2) x (-3) x (-4) x (-5) X (-6)**
2. **(-3) x (-6) x (-9) x (-12)**
3. **(-11) x (-15) + (-11) x (-25)**
4. **10 x (-12) + 5 x (-12)**

Solution:

1. (-2) x (-3) x (-4) x (-5) x (-6)
   ⇒ 6 x 20 x (-6) = 120 x (-6)
   = -720
2. (-3) x (-6) x (-9) x (-12)
   ⇒ 18 x 108
   = 1944
3. (-11) x (-15) + (-11) x (-25)
   ⇒ 165 + 275
   = 440
4. 10 x (-12) + 5 x (-12)
   ⇒ -120-60
   = -180

Question 8.

1. **If x x (-1) = -36, is x positive or negative?**
2. **If x x (-1) = 36, is x positive or negative?**

Solution:

1. x x (-1) = -36
   -lx = -36
   x = $\frac{-36}{-1}$
   x = 36
   ∵ x = 36
   ∴ It is a positive integer.
2. x x (-1) = 36
   -1x = 36

$x = \frac{36}{-1}$
x = -36
∵x = -36
∴It is a negative integer.

Question 9.
Write all the integers between -15 and 15, which are divisible by 2 and 3.
Solution:
The integers between -15 and 15 are :
-12, -6, 0, 6 and 12
That are divisible by 2 and 3.

Question 10.
Write all the integers between -5 and 5, which are divisible by 2 or 3.
Solution:
The integers between -5 and 5 are :
-4, -3, -2, 0, 0, 2, 3 and 4
That are divisible by 2 or 3.

Question 11.
Evaluate:

1. **(-20) + (-8) ÷ (-2) x 3**
2. **(-5) – (-48) ÷ (-16) + (-2) x 6**
3. **16 + 8 ÷ 4- 2 x 3**
4. **16 ÷ 8 x 4 – 2 x 3**
5. **27 – [5 + {28 – (29 – 7)}]**
6. **48 – [18 – {16 – (5 –** $\overline{4+1}$**)}]**
7. **-8 – {-6 (9 – 11) + 18 = -3}**
8. **(24 ÷** $\overline{12-9}$ **– 12) – (3 x 8 ÷ 4 + 1)**

Solution:
We know that, if these type of expressions that has more than one fundamental operations, we use the rule of DMAS i.e., First of all we perform D (division), then M (multiplication), then A (addition) and in the last S (subtraction).

1. **(-20) + (-8) ÷ (-2) x 3**
   ⇒ -20 + 4 x 3
   ⇒ -20+ 12
   =-8
2. **(-5) – (-48) ÷ (-16) + (-2) x 6**
   ⇒ (-5) – 3 + (-2) x 6
   ⇒ -5 – 3 – 12

⇒ -8- 12
= -20

3. **16 + 8 ÷ 4 – 2 x 3**
   ⇒ 16 + 2 – 2 x 3
   ⇒16 + 2 – 6
   ⇒ 18-6
   = 12
4. **16 ÷ 8 x 4 – 2 x 3**
   ⇒ 2 x 4 – 2 x 3
   ⇒ 8 – 6
   = 2
5. **27 – [5 + {28 – (29 – 7)}]**
   ⇒ 27 – [5 + {28 – 22}]
   ⇒ 27 – [5 + 6]
   ⇒ 27 — 11
   = 16
6. **48-[18-{16-(5 –** $\overline{4+1}$**)}]**
   ⇒ 48-[18-{16-(5-5)}]
   ⇒ 48-[18- {16-0)}]
   ⇒ 48-[18- 16]
   ⇒ 48 – 2
   = 46
7. **-8 – {-6 (9 – 11) + 18 ÷ -3}**
   ⇒ -8 – {-6 (-2) – 6}
   ⇒ -8- {12-6}
   ⇒ -8 – {6}
   ⇒ -8-6
   = -14
8. **(24 ÷** $\overline{12-9}$ **– 12) – (3 x 8 = 4 + 1)**
   ⇒ (24 ÷ 3-12)-(3 x 2 + 1)
   ⇒ (8- 12)-(6+ 1)
   ⇒ —4 — 7
   = —11

Question 12.

Find the result of subtracting the sum of all integers between 20 and 30 from the sum of all integers from 20 to 30.

Solution:

Required number = (Sum of all integers between 20 and 30 – Integers between 20 and 30)

(20 + 21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29 + 30) – (21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29)

⇒ 20 + 30 = 50

∴ Required number = 50

Question 13.

Add the product of (-13) and (-17) to the quotient of (-187) and 11.

Solution:

(-13) x (-17)+ (-187- 11)

⇒ (-13) x (-17) + (-17)

⇒ 221 – 17 = 204

Question 14.

The product of two integers is-180. If one of them is 12, find the other.

Solution:

The product of two integers = -180 One integer = 12

∴ Second integer = -180 – 12 = -15

Question 15.

1. **A number changes from -20 to 30. What is the increase or decrease in the number?**
2. **A number changes from 40 to -30. What is the increase or decrease in the number?**

Solution:

1. ∵A number changes from = -20 to 30
   ⇒ -20 – 30 = -50
   ∴-50, it will be increases.
2. ∵A number changes from = 40 to -30
   ⇒ 40 – (-30)
   40 + 30 = 70
   ∴70, it will be decreases