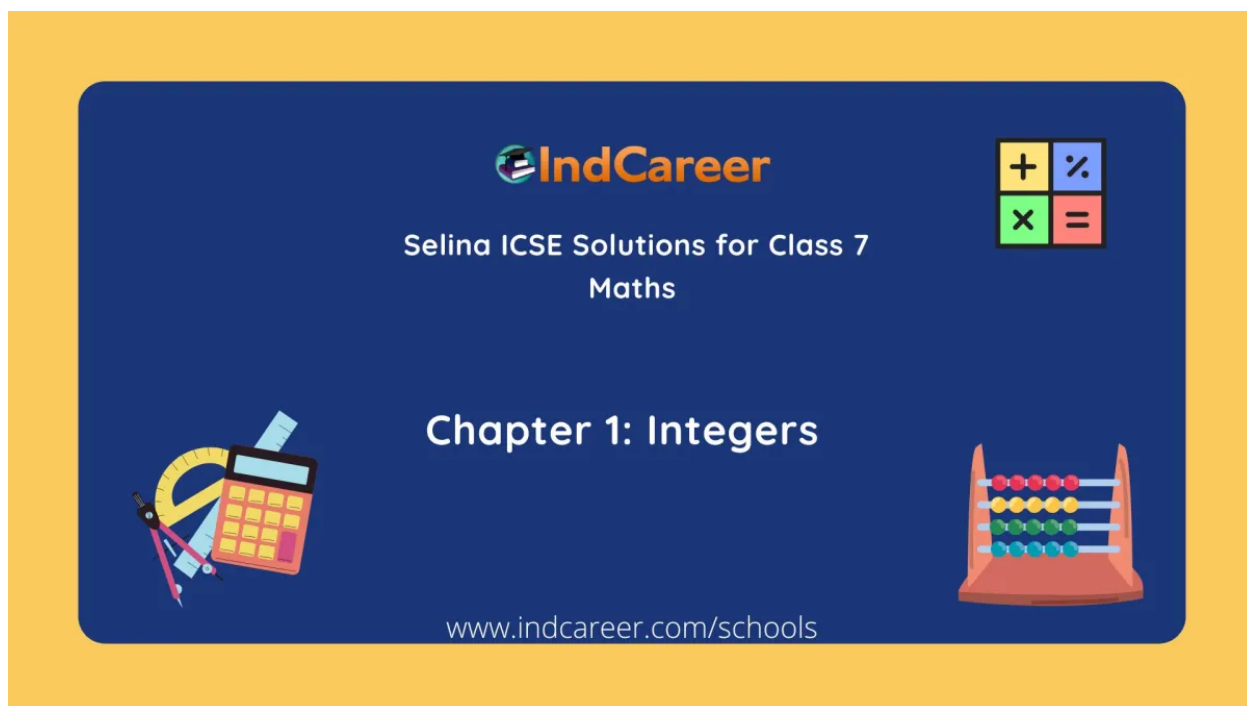


Selina Class 7 ICSE Solutions Mathematics :

Chapter 1- Integers



For any clarifications or questions you can write to **info@indcareer.com**

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Selina Class 7 ICSE Solutions Mathematics :

Chapter 1- Integers

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Selina Class 7 ICSE Solutions Mathematics : Chapter 1- Integers

Selina 7th Maths Chapter 1, Class 7 Maths Chapter 1 solutions

Exercise 1A page: 6

1. Evaluate:

(i) $427 \times 8 + 2 \times 427$

(ii) $394 \times 12 + 394 \times (-2)$

(iii) $558 \times 27 + 3 \times 558$

Solution:

(i) $427 \times 8 + 2 \times 427$

Using Distributive property

$$= 427 \times (8 + 2)$$

By further calculation

$$= 427 \times 10$$

$$= 4270$$

(ii) $394 \times 12 + 394 \times (-2)$

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Using Distributive property

$$= 394 \times (12 - 2)$$

By further calculation

$$= 394 \times 10$$

$$= 3940$$

(iii) $558 \times 27 + 3 \times 558$

Using Distributive property

$$= 558 \times (27 + 3)$$

By further calculation

$$= 558 \times 30$$

$$= 16740$$

2. Evaluate:

(i) $673 \times 9 + 673$

(ii) $1925 \times 101 - 1925$

Solution:

(i) $673 \times 9 + 673$

Using Distributive property

$$= 673 \times (9 + 1)$$

By further calculation

$$= 673 \times 10$$

$$= 6730$$

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(ii) $1925 \times 101 - 1925$

Using Distributive property

$$= 1925 \times (101 - 1)$$

By further calculation

$$= 1925 \times 100$$

$$= 192500$$

3. Verify:

(i) $37 \times \{8 + (-3)\} = 37 \times 8 + 37 \times (-3)$

(ii) $(-82) \times \{(-4) + 19\} = (-82) \times (-4) + (-82) \times 19$

(iii) $\{7 - (-7)\} \times 7 = 7 \times 7 - (-7) \times 7$

(iv) $\{(-15) - 8\} \times -6 = (-15) \times (-6) - 8 \times (-6)$

Solution:

(i) $37 \times \{8 + (-3)\} = 37 \times 8 + 37 \times (-3)$

Consider LHS = $37 \times \{8 + (-3)\}$

It can be written as

$$= 37 \times \{8 - 3\}$$

By further calculation

$$= 37 \times \{5\}$$

$$= 185$$

Similarly RHS = $37 \times 8 + 37 \times (-3)$

It can be written as

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$$= 37 \times (8 - 3)$$

By further calculation

$$= 37 \times 5$$

$$= 185$$

Therefore, LHS = RHS.

$$(ii) (-82) \times \{(-4) + 19\} = (-82) \times (-4) + (-82) \times 19$$

$$\text{Consider LHS} = (-82) \times \{(-4) + 19\}$$

It can be written as

$$= (-82) \times \{-4 + 19\}$$

By further calculation

$$= (-82) \times \{15\}$$

$$= -1230$$

$$\text{Similarly RHS} = (-82) \times (-4) + (-82) \times 19$$

It can be written as

$$= (-82) \times (-4 + 19)$$

By further calculation

$$= -82 \times 15$$

$$= -1230$$

Therefore, LHS = RHS.

$$(iii) \{7 - (-7)\} \times 7 = 7 \times 7 - (-7) \times 7$$

$$\text{Consider LHS} = \{7 - (-7)\} \times 7$$

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It can be written as

$$= \{7 + 7\} \times 7$$

By further calculation

$$= \{14\} \times 7$$

$$= 98$$

$$\text{Similarly RHS} = 7 \times 7 - (-7) \times 7$$

It can be written as

$$= 7 \times 7 + 7 \times 7$$

By further calculation

$$= 7 \times (7 + 7)$$

$$= 7 \times 14$$

$$= 98$$

Therefore, LHS = RHS.

$$(iv) \{(-15) - 8\} \times -6 = (-15) \times (-6) - 8 \times (-6)$$

$$\text{Consider LHS} = \{(-15) - 8\} \times -6$$

It can be written as

$$= \{-15 - 8\} \times -6$$

By further calculation

$$= \{-23\} \times -6$$

$$= 138$$

$$\text{Similarly RHS} = (-15) \times (-6) - 8 \times (-6)$$

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It can be written as

$$= -6 \times (-15 - 8)$$

By further calculation

$$= -6 \times -23$$

$$= 138$$

Therefore, LHS = RHS.

4. Evaluate:

(i) 15×8

(ii) $15 \times (-8)$

(iii) $(-15) \times 8$

(iv) $(-15) \times -8$

Solution:

(i) $15 \times 8 = 120$

(ii) $15 \times (-8) = -120$

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

(iv) $(-15) \times -8 = 120$

5. Evaluate:

(i) $4 \times 6 \times 8$

(ii) $4 \times 6 \times (-8)$

(iii) $4 \times (-6) \times 8$

(iv) $(-4) \times 6 \times 8$

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(v) $4 \times (-6) \times (-8)$

(vi) $(-4) \times (-6) \times 8$

(vii) $(-4) \times 6 \times (-8)$

(viii) $(-4) \times (-6) \times (-8)$

Solution:

(i) $4 \times 6 \times 8 = 192$

(ii) $4 \times 6 \times (-8) = -192$

It has one negative factor

(iii) $4 \times (-6) \times 8 = -192$

It has one negative factor

(iv) $(-4) \times 6 \times 8 = -192$

It has one negative factor

(v) $4 \times (-6) \times (-8) = 192$

It has two negative factors

(vi) $(-4) \times (-6) \times 8 = 192$

It has two negative factors

(vii) $(-4) \times 6 \times (-8) = 192$

It has two negative factors

(viii) $(-4) \times (-6) \times (-8) = -192$

It has three negative factors

6. Evaluate:

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(i) $2 \times 4 \times 6 \times 8$

(ii) $2 \times (-4) \times 6 \times 8$

(iii) $(-2) \times 4 \times (-6) \times 8$

(iv) $(-2) \times (-4) \times 6 \times (-8)$

(v) $(-2) \times (-4) \times (-6) \times (-8)$

Solution:

(i) $2 \times 4 \times 6 \times 8 = 384$

(ii) $2 \times (-4) \times 6 \times 8 = -384$

The number of negative integer in the product is odd

(iii) $(-2) \times 4 \times (-6) \times 8 = 384$

The number of negative integer in the product is even

(iv) $(-2) \times (-4) \times 6 \times (-8) = -384$

The number of negative integer in the product is odd

(v) $(-2) \times (-4) \times (-6) \times (-8) = 384$

The number of negative integer in the product is even

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

(i) -47

(ii) 63

(iii) -1

(iv) 0

Solution:

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(i) $-47 = -1 \times 47$

Therefore, the integer is 47.

(ii) $63 = -1 \times -63$

Therefore, the integer is -63 .

(iii) $-1 = -1 \times 1$

Therefore, the integer is 1.

(iv) $0 = -1 \times 0$

Therefore, the integer is 0.

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

(i) 15 of them are negative and 3 are positive?

(ii) 12 of them are negative and 6 are positive?

(iii) 9 of them are positive and the remaining are negative?

(iv) all are negative?

Solution:

(i) Out of 18 integers, 15 of them are negative which is odd number. Therefore, the sign of product is negative.

(ii) Out of 18 integers, 12 of them are negative which is even number. Therefore, the sign of product is positive.

(iii) Out of 18 integers, 9 of them are negative which is odd number. Therefore, the sign of product is negative.

(iv) All are negative which is even number. Therefore, sign of product is positive.

9. Find which is greater?

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(i) $(8 + 10) \times 15$ or $8 + 10 \times 15$

(ii) $12 \times (6 - 8)$ or $12 \times 6 - 8$

(iii) $\{(-3) - 4\} \times (-5)$ or $(-3) - 4 \times (-5)$

Solution:

(i) $(8 + 10) \times 15$ or $8 + 10 \times 15$

We know that

$$(8 + 10) \times 15 = 18 \times 15 = 270$$

$$8 + 10 \times 15 = 8 + 150 = 158$$

Therefore, $(8 + 10) \times 15 > 8 + 10 \times 15$.

(ii) $12 \times (6 - 8)$ or $12 \times 6 - 8$

We know that

$$12 \times (6 - 8) = 12 \times (-2) = -24$$

$$12 \times 6 - 8 = 72 - 8 = 64$$

Therefore, $12 \times (6 - 8) < 12 \times 6 - 8$.

(iii) $\{(-3) - 4\} \times (-5)$ or $(-3) - 4 \times (-5)$

We know that

$$\{(-3) - 4\} \times (-5) = \{-3 - 4\} \times (-5)$$

By further calculation

$$= -7 \times -5 = 35$$

Similarly

$$(-3) - 4 \times (-5) = -3 + 20 = 17$$

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Therefore, $\{(-3) - 4\} \times (-5) > (-3) - 4 \times (-5)$

10. State, true or false:

(i) product of two different integers can be zero.

(ii) product of 120 negative integers and 121 positive integers is negative.

(iii) $a \times (b + c) = a \times b + c$

(iv) $(b - c) \times a = b - c \times a$.

Solution:

(i) True.

Example: $5 \times 0 = 0$, $0 \times -8 = 0$

(ii) False.

The total number of negative integers is 120 which is an even number and we know that the product of even numbers of negative integers is always positive. Hence, the sign of the product will be positive.

(iii) False.

$a \times (b + c) \neq a \times b + c$

$ab + ac \neq ab + c$

(iv) False.

$(b - c) \times a \neq b - c \times a$

$ab - ac \neq b - ca$

Exercise 1B page: 11

1. Divide:

(i) 117 by 9

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(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 by 9

$$= 117/9$$

It can be written as

$$= (13 \times 9)/9$$

$$= 13$$

(ii) (-117) by 9

$$= -117/9$$

It can be written as

$$= (-13 \times 9)/9$$

$$= -13$$

(iii) 117 by (-9)

$$= 117/-9$$

It can be written as

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$$= (13 \times 9) / -9$$

$$= -13$$

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

$$= -117 / -9 = 117 / 9$$

It can be written as

$$= (13 \times 9) / 9$$

$$= 13$$

(v) 225 by (-15)

$$= 225 / (-15)$$

It can be written as

$$= (15 \times 15) / -15$$

$$= -15$$

(vi) $(-552) \div 24$

$$= -552 / 24$$

It can be written as

$$= (-23 \times 24) / 24$$

$$= -23$$

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

$$= -798 / -21 = 798 / 21$$

It can be written as

$$= (38 \times 21) / 21$$

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$$= 38$$

$$(viii) (-910) \div 26$$

$$= -910/26$$

It can be written as

$$= (-35 \times 26)/26$$

$$= -35$$

2. Evaluate:

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

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

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

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

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

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

$$(vii) (-728) \div 14$$

$$(viii) 272 \div (-17)$$

Solution:

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

$$= -234/13$$

It can be written as

$$= (-18 \times 13)/13$$

$$= -18$$

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

$$= 234 / -13$$

It can be written as

$$= (18 \times 13) / -13$$

$$= -18$$

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

$$= -234 / -13 = 234/13$$

It can be written as

$$= (18 \times 13) / 13$$

$$= 18$$

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

$$= 374 / -17$$

It can be written as

$$= (22 \times 17) / (-17)$$

$$= -22$$

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

$$= -374 / 17$$

It can be written as

$$= (-22 \times 17) / (17)$$

$$= -22$$

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

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$$= -374 / -17 = 374/17$$

It can be written as

$$= (22 \times 17) / (17)$$

$$= 22$$

$$(vii) (-728) \div 14$$

$$= -728/14$$

It can be written as

$$= (-52 \times 14) / 14$$

$$= -52$$

$$(viii) 272 \div (-17)$$

$$= 272 / -17$$

It can be written as

$$= (16 \times 17) / (-17)$$

$$= -16$$

3. Find the quotient in each of the following divisions:

$$(i) 299 \div 23$$

$$(ii) 299 \div (-23)$$

$$(iii) (-384) \div 16$$

$$(iv) (-572) \div (-22)$$

$$(v) 408 \div (-17)$$

Solution:

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(i) $299 \div 23$

$$= 299/23$$

It can be written as

$$= (23 \times 13) / 23$$

$$= 13$$

(ii) $299 \div (-23)$

$$= 299 / -23$$

It can be written as

$$= (23 \times 13) / -23$$

$$= -13$$

(iii) $(-384) \div 16$

$$= -384/16$$

It can be written as

$$= (-24 \times 16) / 16$$

$$= -24$$

(iv) $(-572) \div (-22)$

$$= -572 / -22 = 572/22$$

It can be written as

$$= (26 \times 22) / 22$$

$$= 26$$

(v) $408 \div (-17)$

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$$= 408 / -17$$

It can be written as

$$= (24 \times 17) / (-17)$$

$$= -24$$

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 by 17

$$= 204 / 17$$

It can be written as

$$= (12 \times 17) / 17$$

$$= 12$$

(ii) 152 by - 19

$$= 152 / -19$$

It can be written as

$$= (8 \times 19) / -19$$

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$$= - 8$$

(iii) 0 by 35

$$= 0/35$$

$$= 0$$

(iv) 0 by (-82)

$$= 0/ -82$$

$$= 0$$

(v) 5490 by 10

$$= 5490/10$$

It can be written as

$$= (549 \times 10)/ 10$$

$$= 549$$

(vi) 762800 by 100

$$= 762800/100$$

It can be written as

$$= (7628 \times 100)/ 100$$

$$= 7628$$

5. State, true or false:

(i) $0 \div 32 = 0$

(ii) $0 \div (-9) = 0$

(iii) $(-37) \div 0 = 0$

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(iv) $0 \div 0 = 0$

Solution:

(i) True.

(ii) True.

(iii) False. It is not defined.

(iv) False. It is not defined.

6. Evaluate:

(i) $42 \div 7 + 4$

(ii) $12 + 18 \div 3$

(iii) $19 - 20 \div 4$

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

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

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

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

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

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

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

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

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

Solution:

(i) $42 \div 7 + 4$

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It can be written as

$$= 42/7 + 4$$

By further calculation

$$= 6 + 4$$

$$= 10$$

(ii) $12 + 18 \div 3$

It can be written as

$$= 12 + 18/3$$

By further calculation

$$= 12 + 6$$

$$= 18$$

(iii) $19 - 20 \div 4$

It can be written as

$$= 19 - 20/4$$

By further calculation

$$= 19 - 5$$

$$= 14$$

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

It can be written as

$$= 16 - 15 + 4$$

By further calculation

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$$= 20 - 15$$

$$= 5$$

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

It can be written as

$$= 6 - 8 - (-6/2)$$

By further calculation

$$= 6 - 8 - (-3)$$

So we get

$$= 6 - 8 + 3$$

$$= 9 - 8$$

$$= 1$$

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

It can be written as

$$= 13 - 12/4 \times 2$$

By further calculation

$$= 13 - 3 \times 2$$

$$= 13 - 6$$

$$= 7$$

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

It can be written as

$$= 16 + 8/4 - 2 \times 3$$

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By further calculation

$$= 16 + 2 - 2 \times 3$$

So we get

$$= 16 + 2 - 6$$

$$= 18 - 6$$

$$= 12$$

$$\text{(viii) } 16 \div 8 + 4 - 2 \times 3$$

It can be written as

$$= 16/8 + 4 - 2 \times 3$$

By further calculation

$$= 2 + 4 - 6$$

So we get

$$= 6 - 6$$

$$= 0$$

$$\text{(ix) } 16 - 8 + 4 \div 2 \times 3$$

It can be written as

$$= 16 - 8 + 4/2 \times 3$$

By further calculation

$$= 16 - 8 + 2 \times 3$$

So we get

$$= 16 - 8 + 6$$

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Here

$$= 22 - 8$$

$$= 14$$

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

It can be written as

$$= (-4) + (-12/-6)$$

By further calculation

$$= -4 + 2$$

$$= -2$$

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

It can be written as

$$= (-18) + 6/3 + 5$$

By further calculation

$$= (-18) + 2 + 5$$

So we get

$$= -18 + 7$$

$$= -11$$

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

It can be written as

$$= (-20) \times (-1) + 14/7$$

By further calculation

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$$= (-20) \times (-1) + 2$$

So we get

$$= 20 + 2$$

$$= 22$$

Exercise 1C page: 15

Evaluate:

1. $18 - (20 - 15 \div 3)$

Solution:

$$18 - (20 - 15 \div 3)$$

It can be written as

$$= 18 - (20 - 15/3)$$

By further calculation

$$= 18 - (20 - 5)$$

$$= 18 - 20 + 5$$

So we get

$$= 18 + 5 - 20$$

$$= 23 - 20$$

$$= 3$$

2. $-15 + 24 \div (15 - 13)$

Solution:

$$-15 + 24 \div (15 - 13)$$

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It can be written as

$$= -15 + 24 \div 2$$

So we get

$$= -15 + 12$$

$$= -3$$

3. $35 - \{15 + 14 - (13 +)\}$

Solution:

$$35 - \{15 + 14 - (13 + \overline{2 - 1 + 3})\}$$

It can be written as

$$= 35 - [15 + 14 - (13 + 4)]$$

By further calculation

$$= 35 - [15 + 14 - 17]$$

Multiplying the negative sign

$$= 35 - 15 - 14 + 17$$

So we get

$$= 52 - 29$$

$$= 23$$

4. $27 - \{13 + 4 - (8 + 4 -)\}$

Solution:

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$$27 - \{13 + 4 - (8 + 4 - \overline{1 + 3})\}$$

It can be written as

$$= 27 - \{13 + 4 - (8 + 4 - 4)\}$$

By further calculation

$$= 27 - \{13 + 4 - 8\}$$

So we get

$$= 27 - \{13 + (-4)\}$$

$$= 27 - 9$$

$$= 18$$

$$5. 32 - [43 - \{51 - (20 -)\}]$$

Solution:

$$32 - [43 - \{51 - (20 - \overline{18 - 7})\}]$$

It can be written as

$$= 32 - [43 - \{51 - (20 - 11)\}]$$

By further calculation

$$= 32 - [43 - \{51 - 9\}]$$

So we get

$$= 32 - [43 - 42]$$

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$$= 32 - 1$$

$$= 31$$

$$6. 46 - [26 - \{14 - (15 - 4 \div 2 \times 2)\}]$$

Solution:

$$46 - [26 - \{14 - (15 - 4 \div 2 \times 2)\}]$$

It can be written as

$$= 46 - [26 - \{14 - (15 - 2 \times 2)\}]$$

By further calculation

$$= 46 - [26 - \{14 - (15 - 4)\}]$$

So we get

$$= 46 - [26 - \{14 - 11\}]$$

$$= 46 - [26 - 3]$$

Here

$$= 46 - 23$$

$$= 23$$

$$7. 45 - [38 - \{60 \div 3 - (6 - 9 \div 3) \div 3\}]$$

Solution:

$$45 - [38 - \{60 \div 3 - (6 - 9 \div 3) \div 3\}]$$

It can be written as

$$= 45 - [38 - \{60 \div 3 - (6 - 3) \div 3\}]$$

By further calculation

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$$= 45 - [38 - \{20 - 3 \div 3\}]$$

So we get

$$= 45 - [38 - \{20 - 1\}]$$

By subtraction

$$= 45 - [38 - 19]$$

$$= 45 - 19$$

$$= 26$$

8. $17 - [17 - \{17 - (17 -)\}]$

Solution:

$$17 - [17 - \{17 - (17 - \overline{17 - 17})\}]$$

It can be written as

$$= 17 - [17 - \{17 - (17 - 0)\}]$$

By further calculation

$$= 17 - [17 - \{17 - 17\}]$$

So we get

$$= 17 - [17 - 0]$$

$$= 17 - 17$$

$$= 0$$

9. $2550 - [510 - \{270 - (90 -)\}]$

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Solution:

$$2550 - [510 - \{270 - (90 - \overline{80 + 7})\}]$$

It can be written as

$$= 2550 - [510 - \{270 - (90 - 87)\}]$$

By further calculation

$$= 2550 - [510 - \{270 - 3\}]$$

So we get

$$= 2550 - [510 - 267]$$

$$= 2550 - 243$$

$$= 2307$$

10. $30 + \{-2 \times (25 -)\}$

Solution:

$$30 + \{-2 \times (25 - \overline{13 - 3})\}]$$

It can be written as

$$= 30 + \{-2 \times (25 - 10)\}]$$

By further calculation

$$= 30 + \{-2 \times 15\}]$$

So we get

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$$= 30 + [-30]$$

$$= 30 - 30$$

$$= 0$$

$$11. 88 - \{5 - (-48) \div (-16)\}$$

Solution:

$$88 - \{5 - (-48) \div (-16)\}$$

It can be written as

$$= 88 - \{5 - (-48 \div -16)\}$$

By further calculation

$$= 88 - \{5 - 3\}$$

So we get

$$= 88 - 2$$

$$= 86$$

$$12. 9 \times (8 -) - 2 (2 +)$$

Solution:

$$9 \times (8 -$$

$$\overline{3 + 2}) - 2 (2 +$$

$$\overline{3 + 3})$$

It can be written as

$$= 9 \times (8 - 5) - 2 (2 + 6)$$

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By further calculation

$$= 9 \times 3 - 2 \times 8$$

So we get

$$= 27 - 16$$

$$= 11$$

$$13. 2 - [3 - \{6 - (5 -)\}]$$

Solution:

$$2 - [3 - \{6 - (5 - \overline{4 - 3})\}]$$

It can be written as

$$= 2 - [3 - \{6 - (5 - 1)\}]$$

By further calculation

$$= 2 - [3 - \{6 - 4\}]$$

So we get

$$= 2 - [3 - 2]$$

$$= 2 - 1$$

$$= 1$$

Exercise 1D page: 15

1. The sum of two integers is -15 . If one of them is 9 , find the other.

Solution:

It is given that

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Sum of two integers = -15

One integer = 9

Other integer = $-15 - 9$

Taking negative sign as common

$$= -(15 + 9)$$

$$= -24$$

2. The difference between integers x and -6 is -5 . Find the values of x .

$$x - (-6) = -5 \text{ or } -6 - x = -5$$

Solution:

It is given that

The difference between integers x and -6 is -5

$$x - (-6) = -5 \text{ or } -6 - x = -5$$

So the value of x is

$$x + 6 = -5 \text{ or } -x = -5 + 6$$

By further calculation

$$x = -5 - 6 \text{ or } -x = 1$$

$$x = -11 \text{ or } x = -1$$

3. The sum of two integers is 28 . If one integer is -45 , find the other.

Solution:

It is given that

Sum of two integers = 28

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One integer = -45

Other integer = $28 - (-45)$

By further calculation

$$= 28 + 45$$

$$= 73$$

4. The sum of two integers is -56 . If one integer is -42 , find the other.

Solution:

It is given that

Sum of two integers = -56

One integer = -42

Other integer = $-56 - (-42)$

By further calculation

$$= -56 + 42$$

$$= -14$$

5. The difference between an integer x and (-9) is 6 . Find all possible values of x .

Solution:

It is given that

The difference between an integer x and (-9) is 6

$$x - (-9) = 6 \text{ or } -9 - x = 6$$

So the value of x is

$$x - (-9) = 6 \text{ or } -9 - x = 6$$

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By further calculation

$$x + 9 = 6 \text{ or } -x = 6 + 9$$

So we get

$$x = 6 - 9 \text{ or } -x = 15$$

Here

$$x = -3 \text{ or } x = -15$$

Therefore, possible values of x are -3 and -15 .

6. Evaluate:

(i) $(-1) \times (-1) \times (-1) \times \dots \dots \dots 60 \text{ times.}$

(ii) $(-1) \times (-1) \times (-1) \times (-1) \times \dots \dots \dots 75 \text{ times.}$

Solution:

(i) $(-1) \times (-1) \times (-1) \times \dots \dots \dots 60 \text{ times} = 1$ because (-1) is multiplied even number of times.

(ii) $(-1) \times (-1) \times (-1) \times (-1) \times \dots \dots \dots 75 \text{ times} = -1$ because (-1) is multiplied odd number of times.

7. Evaluate:

(i) $(-2) \times (-3) \times (-4) \times (-5) \times (-6)$

(ii) $(-3) \times (-6) \times (-9) \times (-12)$

(iii) $(-11) \times (-15) \times (-11) \times (-25)$

(iv) $10 \times (-12) + 5 \times (-12)$

Solution:

(i) $(-2) \times (-3) \times (-4) \times (-5) \times (-6)$

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$$= 6 \times 20 \times (-6)$$

By further calculation

$$= 120 \times (-6)$$

$$= - 720$$

$$(ii) (-3) \times (-6) \times (-9) \times (-12)$$

$$= 18 \times 108$$

By further calculation

$$= 1944$$

$$(iii) (-11) \times (-15) + (-11) \times (-25)$$

$$= 165 + 275$$

By further calculation

$$= 440$$

$$(iv) 10 \times (-12) + 5 \times (-12)$$

$$= - 120 - 60$$

By further calculation

$$= - 180$$

8. (i) If $x \times (-1) = - 36$, is x positive or negative?

(ii) If $x \times (-1) = 36$, is x positive or negative?

Solution:

$$(i) x \times (-1) = - 36$$

So we get

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$$-x = -36$$

By further simplification

$$x = 36$$

Hence, it is a positive integer.

$$(ii) x \times (-1) = 36$$

So we get

$$-x = 36$$

By further simplification

$$x = -36$$

Hence, it is a negative integer.

9. Write all the integers between – 15 and 15, which are divisible by 2 and 3.

Solution:

Here the integers between – 15 and 15 are

– 12, – 6, 0, 6 and 12 which are divisible by 2 and 3.

10. Write all the integers between – 5 and 5, which are divisible by 2 or 3.

Solution:

Here the integers between – 5 and 5 are

– 4, – 3, – 2, 0, 2, 3 and 4 which are divisible by 2 or 3.

11. Evaluate:

$$(i) (-20) + (-8) \div (-2) \times 3$$

$$(ii) (-5) - (-48) \div (-16) + (-2) \times 6$$

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

(iv) $16 \div 8 \times 4 - 2 \times 3$

(v) $27 - [5 + \{28 - (29 - 7)\}]$

(vi) $48 - [18 - \{16 - (5 -)\}]$

(vii) $- 8 - \{- 6 (9 - 11) + 18 \div -3\}$

(viii) $(24 \div - 12) - (3 \times 8 \div 4 + 1)$

Solution:

(i) $(-20) + (-8) \div (-2) \times 3$

It can be written as

$$= - 20 + 4 \times 3$$

By further calculation

$$= - 20 + 12$$

$$= - 8$$

(ii) $(-5) - (-48) \div (-16) + (-2) \times 6$

It can be written as

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

By further calculation

$$= - 5 - 3 - 12$$

So we get

$$= - 8 - 12$$

$$= - 20$$

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

It can be written as

$$= 16 + 2 - 2 \times 3$$

By further calculation

$$= 16 + 2 - 6$$

So we get

$$= 18 - 6$$

$$= 12$$

(iv) $16 \div 8 \times 4 - 2 \times 3$

It can be written as

$$= 2 \times 4 - 2 \times 3$$

By further calculation

$$= 8 - 6$$

$$= 2$$

(v) $27 - [5 + \{28 - (29 - 7)\}]$

It can be written as

$$= 27 - [5 + \{28 - 22\}]$$

By further calculation

$$= 27 - [5 + 6]$$

So we get

$$= 27 - 11$$

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$$= 16$$

$$(vi) 48 - [18 - \{16 - (5 - \overline{4 + 1})\}]$$

It can be written as

$$= 48 - [18 - \{16 - (5 - 5)\}]$$

By further calculation

$$= 48 - [18 - \{16 - 0\}]$$

So we get

$$= 48 - [18 - 16]$$

$$= 48 - 2$$

$$= 46$$

$$(vii) - 8 - \{- 6 (9 - 11) + 18 \div -3\}$$

It can be written as

$$= - 8 - \{- 6 (-2) - 6\}$$

By further calculation

$$= - 8 - \{12 - 6\}$$

So we get

$$= - 8 - 6$$

$$= - 14$$

$$(viii) (24 \div \overline{12 - 9} - 12) - (3 \times 8 \div 4 + 1)$$

It can be written as

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$$= (24 \div 3 - 12) - (3 \times 2 + 1)$$

By further calculation

$$= (8 - 12) - (6 + 1)$$

So we get

$$= -4 - 7$$

$$= -11$$

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:

Here the required number = sum of all integers from 20 to 30 – sum of all integers between 20 and 30

Substituting the values

$$= (20 + 21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29 + 30) - (21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29)$$

On further calculation

$$= 20 + 30 = 50$$

Hence, the required number is 50.

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

Solution:

It is given that

$$(-13) \times (-17) + (-187 \div 11)$$

By further calculation

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$$= (-13) \times (-17) + (-17)$$

So we get

$$= 221 - 17$$

$$= 204$$

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

Solution:

Product of two integers = -180

One integer = 12

Other integer = $-180/12$

By division we get

$$= -15$$

15. (i) A number changes from -20 to 30 . What is the increase or decrease in the number?

(ii) A number changes from 40 to -30 . What is the increase or decrease in the number?

Solution:

(i) A number changes from -20 to 30

It can be written as

$$-20 - 30 = -50$$

Hence, -50 will be the increase in the number.

(ii) A number changes from 40 to -30

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It can be written as

$$40 - (-30) = 40 + 30 = 70$$

Hence, 70 will be the decrease in the number.

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 by 9

$$= 117/9$$

It can be written as

$$= (13 \times 9)/9$$

$$= 13$$

(ii) (-117) by 9

$$= -117/9$$

It can be written as

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$$= (-13 \times 9) / 9$$

$$= -13$$

(iii) 117 by (-9)

$$= 117 / -9$$

It can be written as

$$= (13 \times 9) / -9$$

$$= -13$$

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

$$= -117 / -9 = 117 / 9$$

It can be written as

$$= (13 \times 9) / 9$$

$$= 13$$

(v) 225 by (-15)

$$= 225 / (-15)$$

It can be written as

$$= (15 \times 15) / -15$$

$$= -15$$

(vi) (-552) ÷ 24

$$= -552 / 24$$

It can be written as

$$= (-23 \times 24) / 24$$

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$$= - 23$$

(vii) $(-798) \div (-21)$

$$= - 798 / - 21 = 798 / 21$$

It can be written as

$$= (38 \times 21) / 21$$

$$= 38$$

(viii) $(-910) \div 26$

$$= - 910 / 26$$

It can be written as

$$= (- 35 \times 26) / 26$$

$$= - 35$$

2. Evaluate:

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

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

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

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

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

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

(vii) $(-728) \div 14$

(viii) $272 \div (-17)$

Solution:

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

$$= -234/13$$

It can be written as

$$= (-18 \times 13)/13$$

$$= -18$$

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

$$= 234/-13$$

It can be written as

$$= (18 \times 13)/-13$$

$$= -18$$

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

$$= -234/-13 = 234/13$$

It can be written as

$$= (18 \times 13)/13$$

$$= 18$$

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

$$= 374/-17$$

It can be written as

$$= (22 \times 17)/(-17)$$

$$= -22$$

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

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$$= - 374/ 17$$

It can be written as

$$= (-22 \times 17)/ (17)$$

$$= - 22$$

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

$$= - 374/ -17 = 374/17$$

It can be written as

$$= (22 \times 17)/ (17)$$

$$= 22$$

$$(vii) (-728) \div 14$$

$$= - 728/14$$

It can be written as

$$= (-52 \times 14)/ 14$$

$$= -52$$

$$(viii) 272 \div (-17)$$

$$= 272/ -17$$

It can be written as

$$= (16 \times 17)/ (-17)$$

$$= -16$$

3. Find the quotient in each of the following divisions:

(i) $299 \div 23$

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(ii) $299 \div (-23)$

(iii) $(-384) \div 16$

(iv) $(-572) \div (-22)$

(v) $408 \div (-17)$

Solution:

(i) $299 \div 23$

$$= 299/23$$

It can be written as

$$= (23 \times 13) / 23$$

$$= 13$$

(ii) $299 \div (-23)$

$$= 299 / -23$$

It can be written as

$$= (23 \times 13) / -23$$

$$= -13$$

(iii) $(-384) \div 16$

$$= -384/16$$

It can be written as

$$= (-24 \times 16) / 16$$

$$= -24$$

(iv) $(-572) \div (-22)$

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$$= - 572 / - 22 = 572 / 22$$

It can be written as

$$= (26 \times 22) / 22$$

$$= 26$$

(v) $408 \div (-17)$

$$= 408 / -17$$

It can be written as

$$= (24 \times 17) / (-17)$$

$$= - 24$$

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 by 17

$$= 204 / 17$$

It can be written as

$$= (12 \times 17) / 17$$

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$$= 12$$

(ii) 152 by -19

$$= 152 / -19$$

It can be written as

$$= (8 \times 19) / -19$$

$$= -8$$

(iii) 0 by 35

$$= 0/35$$

$$= 0$$

(iv) 0 by (-82)

$$= 0 / -82$$

$$= 0$$

(v) 5490 by 10

$$= 5490/10$$

It can be written as

$$= (549 \times 10) / 10$$

$$= 549$$

(vi) 762800 by 100

$$= 762800/100$$

It can be written as

$$= (7628 \times 100) / 100$$

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= 7628

5. State, true or false:

(i) $0 \div 32 = 0$

(ii) $0 \div (-9) = 0$

(iii) $(-37) \div 0 = 0$

(iv) $0 \div 0 = 0$

Solution:

(i) True.

(ii) True.

(iii) False. It is not defined.

(iv) False. It is not defined.

6. Evaluate:

(i) $42 \div 7 + 4$

(ii) $12 + 18 \div 3$

(iii) $19 - 20 \div 4$

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

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

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

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

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

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

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

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

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

Solution:

(i) $42 \div 7 + 4$

It can be written as

$$= 42/7 + 4$$

By further calculation

$$= 6 + 4$$

$$= 10$$

(ii) $12 + 18 \div 3$

It can be written as

$$= 12 + 18/3$$

By further calculation

$$= 12 + 6$$

$$= 18$$

(iii) $19 - 20 \div 4$

It can be written as

$$= 19 - 20/4$$

By further calculation

$$= 19 - 5$$

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$$= 14$$

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

It can be written as

$$= 16 - 15 + 4$$

By further calculation

$$= 20 - 15$$

$$= 5$$

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

It can be written as

$$= 6 - 8 - (-6/2)$$

By further calculation

$$= 6 - 8 - (-3)$$

So we get

$$= 6 - 8 + 3$$

$$= 9 - 8$$

$$= 1$$

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

It can be written as

$$= 13 - 12/4 \times 2$$

By further calculation

$$= 13 - 3 \times 2$$

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$$= 13 - 6$$

$$= 7$$

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

It can be written as

$$= 16 + 8/4 - 2 \times 3$$

By further calculation

$$= 16 + 2 - 2 \times 3$$

So we get

$$= 16 + 2 - 6$$

$$= 18 - 6$$

$$= 12$$

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

It can be written as

$$= 16/8 + 4 - 2 \times 3$$

By further calculation

$$= 2 + 4 - 6$$

So we get

$$= 6 - 6$$

$$= 0$$

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

It can be written as

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$$= 16 - 8 + 4/2 \times 3$$

By further calculation

$$= 16 - 8 + 2 \times 3$$

So we get

$$= 16 - 8 + 6$$

Here

$$= 22 - 8$$

$$= 14$$

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

It can be written as

$$= (-4) + (-12/-6)$$

By further calculation

$$= -4 + 2$$

$$= -2$$

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

It can be written as

$$= (-18) + 6/3 + 5$$

By further calculation

$$= (-18) + 2 + 5$$

So we get

$$= -18 + 7$$

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$$= - 11$$

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

It can be written as

$$= (-20) \times (-1) + 14/7$$

By further calculation

$$= (-20) \times (-1) + 2$$

So we get

$$= 20 + 2$$

$$= 22$$

Exercise 1C

Evaluate:

$$1. 18 - (20 - 15 \div 3)$$

Solution:

$$18 - (20 - 15 \div 3)$$

It can be written as

$$= 18 - (20 - 15/3)$$

By further calculation

$$= 18 - (20 - 5)$$

$$= 18 - 20 + 5$$

So we get

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$$= 18 + 5 - 20$$

$$= 23 - 20$$

$$= 3$$

$$2. -15 + 24 \div (15 - 13)$$

Solution:

$$-15 + 24 \div (15 - 13)$$

It can be written as

$$= -15 + 24 \div 2$$

So we get

$$= -15 + 12$$

$$= -3$$

$$3. 35 - \{15 + 14 - (13 +)\}$$

Solution:

$$35 - \{15 + 14 - (13 +$$

$$\overline{2 - 1 + 3})\}$$

It can be written as

$$= 35 - [15 + 14 - (13 + 4)]$$

By further calculation

$$= 35 - [15 + 14 - 17]$$

Multiplying the negative sign

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$$= 35 - 15 - 14 + 17$$

So we get

$$= 52 - 29$$

$$= 23$$

$$4. 27 - \{13 + 4 - (8 + 4 -)\}$$

Solution:

$$27 - \{13 + 4 - (8 + 4 - \overline{1 + 3})\}$$

It can be written as

$$= 27 - \{13 + 4 - (8 + 4 - 4)\}$$

By further calculation

$$= 27 - \{13 + 4 - 8\}$$

So we get

$$= 27 - \{13 + (-4)\}$$

$$= 27 - 9$$

$$= 18$$

$$5. 32 - [43 - \{51 - (20 -)\}]$$

Solution:

$$32 - [43 - \{51 - (20 - \overline{18 - 7})\}]$$

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It can be written as

$$= 32 - [43 - \{51 - (20 - 11)\}]$$

By further calculation

$$= 32 - [43 - \{51 - 9\}]$$

So we get

$$= 32 - [43 - 42]$$

$$= 32 - 1$$

$$= 31$$

$$\mathbf{6. \ 46 - [26 - \{14 - (15 - 4 \div 2 \times 2)\}]}$$

Solution:

$$46 - [26 - \{14 - (15 - 4 \div 2 \times 2)\}]$$

It can be written as

$$= 46 - [26 - \{14 - (15 - 2 \times 2)\}]$$

By further calculation

$$= 46 - [26 - \{14 - (15 - 4)\}]$$

So we get

$$= 46 - [26 - \{14 - 11\}]$$

$$= 46 - [26 - 3]$$

Here

$$= 46 - 23$$

$$= 23$$

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7. $45 - [38 - \{60 \div 3 - (6 - 9 \div 3) \div 3\}]$

Solution:

$$45 - [38 - \{60 \div 3 - (6 - 9 \div 3) \div 3\}]$$

It can be written as

$$= 45 - [38 - \{60 \div 3 - (6 - 3) \div 3\}]$$

By further calculation

$$= 45 - [38 - \{20 - 3 \div 3\}]$$

So we get

$$= 45 - [38 - \{20 - 1\}]$$

By subtraction

$$= 45 - [38 - 19]$$

$$= 45 - 19$$

$$= 26$$

8. $17 - [17 - \{17 - (17 -)\}]$

Solution:

$$17 - [17 - \{17 - (17 -$$

$$\overline{17 - 17})\}]$$

It can be written as

$$= 17 - [17 - \{17 - (17 - 0)\}]$$

By further calculation

<https://www.indcareer.com/schools/selina-class-7-icse-solutions-mathematics-chapter-1-integers/>

$$= 17 - [17 - \{17 - 17\}]$$

So we get

$$= 17 - [17 - 0]$$

$$= 17 - 17$$

$$= 0$$

9. $2550 - [510 - \{270 - (90 -)\}]$

Solution:

$$2550 - [510 - \{270 - (90 - \overline{80 + 7})\}]$$

It can be written as

$$= 2550 - [510 - \{270 - (90 - 87)\}]$$

By further calculation

$$= 2550 - [510 - \{270 - 3\}]$$

So we get

$$= 2550 - [510 - 267]$$

$$= 2550 - 243$$

$$= 2307$$

10. $30 + \{-2 \times (25 -)\}$

Solution:

$$30 + \{-2 \times (25 -$$

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$$\overline{13 - 3} \}}]$$

It can be written as

$$= 30 + \{-2 \times (25 - 10)\}$$

By further calculation

$$= 30 + \{-2 \times 15\}$$

So we get

$$= 30 + [-30]$$

$$= 30 - 30$$

$$= 0$$

$$11. 88 - \{5 - (-48) \div (-16)\}$$

Solution:

$$88 - \{5 - (-48) \div (-16)\}$$

It can be written as

$$= 88 - \{5 - (-48 / -16)\}$$

By further calculation

$$= 88 - \{5 - 3\}$$

So we get

$$= 88 - 2$$

$$= 86$$

$$12. 9 \times (8 -) - 2 (2 +)$$

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Solution:

$$9 \times (8 - \overline{3 + 2}) - 2(2 + \overline{3 + 3})$$

It can be written as

$$= 9 \times (8 - 5) - 2(2 + 6)$$

By further calculation

$$= 9 \times 3 - 2 \times 8$$

So we get

$$= 27 - 16$$

$$= 11$$

$$13. 2 - [3 - \{6 - (5 -)\}]$$

Solution:

$$2 - [3 - \{6 - (5 - \overline{4 - 3})\}]$$

It can be written as

$$= 2 - [3 - \{6 - (5 - 1)\}]$$

By further calculation

$$= 2 - [3 - \{6 - 4\}]$$

So we get

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$$= 2 - [3 - 2]$$

$$= 2 - 1$$

$$= 1$$

Exercise 1D

1. The sum of two integers is -15 . If one of them is 9 , find the other.

Solution:

It is given that

Sum of two integers $= -15$

One integer $= 9$

Other integer $= -15 - 9$

Taking negative sign as common

$$= -(15 + 9)$$

$$= -24$$

2. The difference between integers x and -6 is -5 . Find the values of x .

$$x - (-6) = -5 \text{ or } -6 - x = -5$$

Solution:

It is given that

The difference between integers x and -6 is -5

$$\Rightarrow x - (-6) = -5 \text{ or } -6 - x = -5$$

So the value of x is

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$$x + 6 = -5 \text{ or } -x = -5 + 6$$

By further calculation

$$x = -5 - 6 \text{ or } -x = 1$$

$$x = -11 \text{ or } x = -1$$

3. The sum of two integers is 28. If one integer is -45 , find the other.

Solution:

It is given that

$$\text{Sum of two integers} = 28$$

$$\text{One integer} = -45$$

$$\text{Other integer} = 28 - (-45)$$

By further calculation

$$= 28 + 45$$

$$= 73$$

4. The sum of two integers is -56 . If one integer is -42 , find the other.

Solution:

It is given that

$$\text{Sum of two integers} = -56$$

$$\text{One integer} = -42$$

$$\text{Other integer} = -56 - (-42)$$

By further calculation

$$= -56 + 42$$

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$$= -14$$

5. The difference between an integer x and (-9) is 6. Find all possible values of x .

Solution:

It is given that

The difference between an integer x and (-9) is 6

$$x - (-9) = 6 \text{ or } -9 - x = 6$$

So the value of x is

$$x - (-9) = 6 \text{ or } -9 - x = 6$$

By further calculation

$$x + 9 = 6 \text{ or } -x = 6 + 9$$

So we get

$$x = 6 - 9 \text{ or } -x = 15$$

Here

$$x = -3 \text{ or } x = -15$$

Therefore, possible values of x are -3 and -15 .

6. Evaluate:

(i) $(-1) \times (-1) \times (-1) \times \dots \dots \dots 60$ times.

(ii) $(-1) \times (-1) \times (-1) \times (-1) \times \dots \dots \dots 75$ times.

Solution:

(i) $(-1) \times (-1) \times (-1) \times \dots \dots \dots 60$ times = 1 because (-1) is multiplied even number of times.

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(ii) $(-1) \times (-1) \times (-1) \times (-1) \times \dots \dots \dots 75 \text{ times} = -1$ because (-1) is multiplied odd number of times.

7. Evaluate:

(i) $(-2) \times (-3) \times (-4) \times (-5) \times (-6)$

(ii) $(-3) \times (-6) \times (-9) \times (-12)$

(iii) $(-11) \times (-15) \times (-11) \times (-25)$

(iv) $10 \times (-12) + 5 \times (-12)$

Solution:

(i) $(-2) \times (-3) \times (-4) \times (-5) \times (-6)$

$= 6 \times 20 \times (-6)$

By further calculation

$= 120 \times (-6)$

$= -720$

(ii) $(-3) \times (-6) \times (-9) \times (-12)$

$= 18 \times 108$

By further calculation

$= 1944$

(iii) $(-11) \times (-15) + (-11) \times (-25)$

$= 165 + 275$

By further calculation

$= 440$

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$$(iv) 10 \times (-12) + 5 \times (-12)$$

$$= -120 - 60$$

By further calculation

$$= -180$$

8. (i) If $x \times (-1) = -36$, is x positive or negative?

(ii) If $x \times (-1) = 36$, is x positive or negative?

Solution:

$$(i) x \times (-1) = -36$$

So we get

$$-x = -36$$

By further simplification

$$x = 36$$

Hence, it is a positive integer.

$$(ii) x \times (-1) = 36$$

So we get

$$-x = 36$$

By further simplification

$$x = -36$$

Hence, it is a negative integer.

9. Write all the integers between -15 and 15 , which are divisible by 2 and 3 .

Solution:

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Here the integers between -15 and 15 are

$-12, -6, 0, 6$ and 12 which are divisible by 2 and 3 .

10. Write all the integers between -5 and 5 , which are divisible by 2 or 3 .

Solution:

Here the integers between -5 and 5 are

$-4, -3, -2, 0, 2, 3$ and 4 which are divisible by 2 or 3 .

11. Evaluate:

(i) $(-20) + (-8) \div (-2) \times 3$

(ii) $(-5) - (-48) \div (-16) + (-2) \times 6$

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

(iv) $16 \div 8 \times 4 - 2 \times 3$

(v) $27 - [5 + \{28 - (29 - 7)\}]$

(vi) $48 - [18 - \{16 - (5 -)\}]$

(vii) $-8 - \{-6(9 - 11) + 18 \div -3\}$

(viii) $(24 \div -12) - (3 \times 8 \div 4 + 1)$

Solution:

(i) $(-20) + (-8) \div (-2) \times 3$

It can be written as

$$= -20 + 4 \times 3$$

By further calculation

$$= -20 + 12$$

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$$= -8$$

$$(ii) (-5) - (-48) \div (-16) + (-2) \times 6$$

It can be written as

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

By further calculation

$$= -5 - 3 - 12$$

So we get

$$= -8 - 12$$

$$= -20$$

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

It can be written as

$$= 16 + 2 - 2 \times 3$$

By further calculation

$$= 16 + 2 - 6$$

So we get

$$= 18 - 6$$

$$= 12$$

$$(iv) 16 \div 8 \times 4 - 2 \times 3$$

It can be written as

$$= 2 \times 4 - 2 \times 3$$

By further calculation

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$$= 8 - 6$$

$$= 2$$

$$(v) 27 - [5 + \{28 - (29 - 7)\}]$$

It can be written as

$$= 27 - [5 + \{28 - 22\}]$$

By further calculation

$$= 27 - [5 + 6]$$

So we get

$$= 27 - 11$$

$$= 16$$

$$(vi) 48 - [18 - \{16 - (5 - \overline{4 + 1})\}]$$

It can be written as

$$= 48 - [18 - \{16 - (5 - 5)\}]$$

By further calculation

$$= 48 - [18 - \{16 - 0\}]$$

So we get

$$= 48 - [18 - 16]$$

$$= 48 - 2$$

$$= 46$$

$$(vii) - 8 - \{- 6 (9 - 11) + 18 \div -3\}$$

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It can be written as

$$= -8 - \{-6(-2) - 6\}$$

By further calculation

$$= -8 - \{12 - 6\}$$

So we get

$$= -8 - 6$$

$$= -14$$

$$\text{(viii) } (24 \div \overline{12 - 9} - 12) - (3 \times 8 \div 4 + 1)$$

It can be written as

$$= (24 \div 3 - 12) - (3 \times 2 + 1)$$

By further calculation

$$= (8 - 12) - (6 + 1)$$

So we get

$$= -4 - 7$$

$$= -11$$

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:

Here the required number = sum of all integers from 20 to 30 – sum of all integers between 20 and 30

Substituting the values

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$$= (20 + 21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29 + 30) - (21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 29)$$

On further calculation

$$= 20 + 30 = 50$$

Hence, the required number is 50.

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

Solution:

It is given that

$$(-13) \times (-17) + (-187 \div 11)$$

By further calculation

$$= (-13) \times (-17) + (-17)$$

So we get

$$= 221 - 17$$

$$= 204$$

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

Solution:

Product of two integers = - 180

One integer = 12

Other integer = - 180/ 12

By division we get

$$= - 15$$

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15. (i) A number changes from -20 to 30 . What is the increase or decrease in the number?

(ii) A number changes from 40 to -30 . What is the increase or decrease in the number?

Solution:

(i) A number changes from -20 to 30

It can be written as

$$-20 - 30 = -50$$

Hence, -50 will be the increase in the number.

(ii) A number changes from 40 to -30

It can be written as

$$40 - (-30) = 40 + 30 = 70$$

Hence, 70 will be the decrease in the number.



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