EDUGROSS
WISDOMISING KNOWLEDGE

RS Aggarwal Solutions for Class 7 Maths chapter 1
Integers

EXERCISE 1A PAGE: 7

1. Evaluate

i. 15+(-8)

Solution: -

Using the rule for addition of integers with unlike signs, we have to do subtraction:

The above question can be written as,

= (15-8) … [∵(+× −= −)]

Then,

= 15-8

=+7

(Though we have done subtraction, we assign bigger number sign for the answer)

ii. (-16)+9

Solution:-

Using the rule for addition of integers with unlike signs, we have to do subtraction:

= -16+9

=- (16-9)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=-7

(Though we have done subtraction, we assign bigger number sign for the answer)

iii. (-7)+(-23)

Solution:-

Using the rule for addition of integers with same signs, we have to do addition:

The above question can be written as,

= (-7-23) … [∵(+× −= −)]

Then,

=-7-23

=-30

(Though we have done subtraction, we assign bigger number sign for the answer)

iv. (-32)+47

Solution:-

Using the rule for addition of integers with unlike signs, we have to do subtraction:

= -32+47

=- (32-47)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=+15

(Though we have done subtraction, we assign bigger number sign for the answer)

v. 53+(-26)

Solution:-

Using the rule for addition of integers with unlike signs, we have to do subtraction:

The above question can be written as,
= (53-26) ... [∵(+× −= −)]
=53-26
=+27
(Though we have done subtraction, we assign bigger number sign for the answer)

vi. (-48)+(-36)

Solution:-
Using the rule for addition of integers with same signs, we have to do addition:
The above question can be written as,
= (-48-36) ... [∵(+× −= −)]
=-(48+36)
(Take out the –ve sign as common and do the addition)
=-84
(Though we are done addition, we have to assign bigger number sign for the answer)

2. Find the sum of

i. 153 and -302

Solution:-
We know that,
The above question can be written as,
= [153+ (-302)]
Then,
Using the rule for addition of integers with unlike signs, we have to do subtraction:
=153-302
=-149

ii. 1005 and -277

Solution:-
We know that,
The above question can be written as,
= [1005+ (-277)]
Then,
Using the rule for addition of integers with unlike signs, we have to do subtraction:
=1005-277
=728

iii. -2035 and 297

Solution:-
We know that,
The above question can be written as,
= [-2035+297]
Then,
Using the rule for addition of integers with unlike signs, we have to do subtraction:
=-(2035-297)
(Take out the –ve sign outside and do subtract smaller from bigger number)

=-1738

iv. -489 and -324

Solution:-

We know that,

The above question can be written as,

= [(-489) + (-324)]

Then,

Using the rule for addition of integers with same signs, we have to do addition:

=-489-324

=-(489+324)

(Take out the –ve sign as common and do the addition)

=-813

v. -1000 and 438

Solution:-

We know that,

The above question can be written as,

= [-1000+438]

Then,

Using the rule for addition of integers with unlike signs, we have to do subtraction:

=-(1000-438)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=-562

vi. -238 and 500

Solution:-

We know that,

The above question can be written as,

= [-238+500]

Then,

Using the rule for addition of integers with unlike signs, we have to do subtraction:

=-(238-500)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=262

3. Find the additive inverse of:

i. -83

Solution:-

=83

(∵ Additive inverse of the integer is the change of sign i.e. positive to negative and negative to positive with the same number)

ii. 256

Solution:-

=-256

(∵ Additive inverse of the integer is the change of sign i.e. positive to negative and negative to positive with the same number)

iii. 0

Solution:-

=0

(∵ Additive inverse of zero is itself only)

iv. -2001

Solution:-

=2001

(∵ Additive inverse of the integer is the change of sign i.e. positive to negative and negative to positive with the same number)

4. Subtract:

i. 28 from -42

Solution:-

=-42-(+28)

=-42-28 ... [∵ (− × += −)]

=-(42+28)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=-70

[∵We have to assign bigger number sign for the answer]

ii. -36 from 42

Solution:-

=42-(-36)

=42+36 ... [∵ (− × −= +)]

=78

[∵We have to assign bigger number sign for the answer]

iii. -37 from -53

Solution:-

=-53-(-37)

=-53+37 ... [∵ (− × −= +)]

=- (53-37)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=-16

[∵ We have to assign bigger number sign for the answer]

iv. -66 from -34

Solution:-

=-34-(-66)

=-34+66 ... [∵ (− × −= +)]

=-(34-66)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=32
[∵We have to assign bigger number sign for the answer]

v. 318 from 0

Solution:-

=0-318
=-318
[∵We have to assign bigger number sign for the answer]

vi. -153 from -240

Solution:-

=-240-(-153)
=-240+153 ... [∵ (− × −= +)]
=-(240-153)
(Take out the –ve sign outside and do subtract smaller from bigger number)
=-87
[∵We have to assign bigger number sign for the answer]

vii. -64 from 0

Solution:-

=0-(-64)
=0+64 ... [∵ (− × −= +)]
=64
[∵We have to assign bigger number sign for the answer]

viii. -56 from 144

Solution:-

=144-(-56)
=144+56 ... [∵ (− × −= +)]
=200
[∵We have to assign bigger number sign for the answer]

5. Subtract the sum of -1032 and 878 from -34

Solution:-

Firstly we have to find the sum of -1032 and 878
=-1032+878
=-(1032-878)
(Take out the –ve sign outside and do subtract smaller from bigger number)
=-154
Now Subtract -154 from -34
=-34-(-154)
=-34+154 ... [∵ (− × −= +)]
=-(34-154)
(Take out the –ve sign outside and do subtract smaller from bigger number)
=120
[∵We have to assign bigger number sign for the answer]

6. Subtract -134 from the sum of 38 and -87

Solution:-

Firstly we have to find the sum of 38 and -87

=38-87

=-49

Now Subtract -134 from -49

= -49-(-134)

=-49+134 ... [∵ (− × −= +)]

=-(49-134)

(Take out the –ve sign outside and do subtract smaller from bigger number)

=85

[∵We have to assign bigger number sign for the answer]

7. Fill in the blanks:

i. {(-13)+27}+ (-41) = (-13) + {27+ (. . . . .)}

Solution:-

The arrangement of above integers is in the form of Associative law of Addition [(a+b) +c = a+ (b+c)]

Let,

a=-13, b=27, c=-41

∴ {(-13) +27}+ (-41) = (-13) + {27+ (-41)}

ii. (-26)+{(-49)+(-83)}={(-26)+(-49)}+(. . . . .)

Solution:-

The arrangement of above integers is in the form of Associative law of Addition [(a+b) +c = a+ (b+c)]

Let,

a=-26, b=-49, c=-83

∴ (-26)+ {(-49) + (-83)} = {(-26) + (-49)} + (-83)

iii. 53+ (-37) = (-37) + (. . . . .)

Solution:-

The arrangement of above integers is in the form of Commutative law of addition [a+b=b+a]

Let,

a=53, b=-37

∴ 53+ (-37) = (-37) + (53)

iv. (-68)+ (-76) = (. . . .)+(-68)

Solution:-

The arrangement of above integers is in the form of Commutative law of addition [a+b=b+a]

Let,

a=-68, b=-76

∴ (-68)+ (-76) = (-76) + (68)

v. (-72) + (. . . .) = -72

Solution:-

The arrangement of above integers is in the form of Closure property of addition [a+b=c]

Let,
a=-72, b=x
Then,
=-72+(x) =-72
=(x) = -72 + 72
[∵ By sending -72 from left hand side to right hand side, so it changes to +72]
=(x) = 0
∴ (-72) + (0) = -72

vi. – (-83) =. . . . . .

Solution:-
=83 [∵ (− × −= +)]

vii. (-60)-(. . . . . .) = -59

Solution:-
The arrangement of above integers is in the form of Closure property of subtraction [a +b=c]
Let,
a = -60, b=x
Then,
= (-60)-(x) = -59
= (-60) +59 = x
[∵by sending –x from left hand side to right hand side , so it changes to x and -59 from right hand side to left hand side, so it is changes to 59]
= x = -1
∴ (-60)- (-1) = -59

viii. (-31) + (. . . . .) = -40

Solution:-
The arrangement of above integers is in the form of Closure property of addition [a+b=c]
Let,
a = -31, b = x
Then,
= (-31) + (x) = -40
= (x) = (-40) + (31)
[∵ By sending -31 from left hand side to right hand side, so it changes to 31]
= x = -9
∴ (-31) + (-9) = -40

8. Simplify: {-13 –(-27)}+ {-25-(-40)}

Solution:-
= {-13+27} + {-25 + 40} ... [∵ (− × −= +)]
= {14} + {15}
= 29

9. Find 36-(-64) and (-64)-36. Are they equal

Solution:-

From the commutative law of Subtraction [a-b = b-a]
Let,
a=36, b=-64
Left hand side (LHS),
= {36 – (-64)}
= {36+64}
= 100
Right hand side (RHS),
= (-64-36)
=-(64+36)
(Take out the –ve sign outside and do subtract smaller from bigger number)
=-100
By comparing LHS and RHS,
LHS ≠ RHS

10. If a = -8, b = -7, c = 6, verify that (a+b) + c = a+ (b+c)

Solution:-
From the Associative law of Addition
= {-8+ (-7)} +6= -8 + {(-7) +6}
Left hand side (LHS),
= {-8+ (-7)} +6
= {-8-7} +6
= {-15} + 6
= -9
Right hand side (RHS),
=-8 + {(-7) +6}
=-8 + {-7+6}
=- 8 + {-1}
=-8-1
=-9
By comparing LHS and RHS,
LHS=RHS

11. If a=-9 and b=-6, show that (a-b)≠ (b-a)

Solution:-
From the Commutative law of Subtraction
Left hand side (LHS),
= {(-9)-(-6)}
= {-9+6}
=-{9-6}
(Take out the –ve sign outside and do subtract smaller from bigger number)
=-{3}
=-3
Right hand side (RHS),
= {(-6)-(-9)}
= {-6+9}
=-{6-9}

(Take out the –ve sign outside and do subtract smaller from bigger number)

=-{-3}

=3

By comparing LHS and RHS

LHS≠RHS

12. The sum of two integers is -16. If one of them is 53, find the other.

Solution:-

By assuming Closure property of addition [a+b=c],

Let,

a=53, assume b=x, c=-16

=53+x=-16

= x =-16-53

(∵ By sending 53 from left hand side to the right hand side, it changes to -53)

= x = -69

By the calculation we got another integer is -69

13. The sum of two integers is 65. If one of them is -31, find the other

Solution:-

By assuming Closure property of addition [a+b=c],

Let,

a=-31, assume b=x, c=65

= -31 + x = 65

= x = 65+31

(∵ By sending -31 from left hand side to the right hand side, it changes to 31)

= x = 96

By the calculation we got another integer is 96

14. The difference of an integer a and (-6) is 4. Find the value of a.

Solution:-

By assuming Closure property of Subtraction [a-b=c],

Let,

a = a, b=-6, c=4

= a – (-6) = 4

= a + 6 = 4

= a = 4-6

(∵ By sending 6 from left hand side to the right hand side, it changes to -6)

= a = -2

15. Write a pair of integers whose sum gives

i. Zero:

ii. A negative integer:

iii. An integer smaller than both integers:

iv. An integer greater then both integers:

v. An integer smaller than only one of the integers.

Solution:-

i. = 5 + (-5)
= 5-5
=0

ii. = -8 + (-5)
= -8 -5
=-13

iii. = -3 +(-6)
= -3-6
=-9

iv. = 4 + 6
=10

v. = 7 + (-3)
= 7 – 3
= 5

16. For each of the following statements, write (T) for true and (F) for false:

i. The smallest integer is zero.

Solution:-
False (F),
Because all the negative integers are smaller than the zero.

ii. -10 is greater than -7.

Solution:-
False (F),
Because in the negative integer as the number increasing, its value is decreasing.

iii. Zero is larger than every negative integer.

Solution:-
True (T),
Because in the number line all the negative numbers are come left side of the zero.

iv. The sum of two negative integers is a negative integer.

Solution:-
True (T),
Because, we know that for same sign we have to add and then assign the greater number sign.

v. The sum of a negative integer and a positive integer is always a positive integer.

Solution:-
False (F),
Because we find the difference between the number and assign the bigger number sign.

Solution:-

i. = 5 + (-5)
= 5-5
=0

ii. = -8 + (-5)
= -8 -5
=-13

iii. = -3 +(-6)
= -3-6
=-9

iv. = 4 + 6
=10

v. = 7 + (-3)
= 7 – 3
= 5

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iv. The sum of two negative integers is a negative integer.

Solution:-
True (T),
Because, we know that for same sign we have to add and then assign the greater number sign.

v. The sum of a negative integer and a positive integer is always a positive integer.

Solution:-
False (F),
Because we find the difference between the number and assign the bigger number sign.

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

vi. -35 by 0

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

$=-35\times0$

$= 0$

(∵ Any integer it may positive or negative multiplied by or to zero the result will be zero itself)

vii. 0 by -23

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

$=0\times-23$

$= 0$

(∵ Any integer it may positive or negative multiplied by or to zero the result will be zero itself)

viii. -16 by -12

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

$=-16\times-12$ ... [∵(− × −= +)

$=192$

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

ix. -105 by -8

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

$=-105\times-8$ ... [∵(− × −= +)

$=840$

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

x. -36 by -50

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

$= (-36)\times (-50)$ ... [∵(− × −= +)

$= 1800$

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

xi. -28 by -1

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

= (-28) ×(-1) … [∵(− × −= +)]

= 28

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

xii. 25 by -11

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

= 25 × (-11) … [∵ (+ × −= −)]

= -275

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

2. Find each of the following products:

i. $3\times 4\times(-5)$

Solution:-

Using the rule for Multiplication of integers.

In this question first we have to multiply the integers with same sign and then from the answer that we get is multiplied with other integer of different sign,

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

= (12) ×(-5) … [∵ (+ × −= −)]

= -60

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

ii. $2\times(-5)\times(-6)$

Solution:-

Using the rule for Multiplication of integers.

In this question first we have to multiply the integers with same sign and then from the answer that we get is multiplied with other integer of different sign,

= $\{2\times(-5\times-6)\}$ … [∵(− × −= +)]

= {2×30}

=60

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

iii. (-5) ×(-8) ×(-3)

Solution:-

Using the rule for Multiplication of integers.

In this question we have to multiply the first two integers and then from the answer that we get

is multiplied with other integer,

= {(-5 ×-8) × (-3)} ... [∵(− × −= +)]
= {40 ×(-3)} ... [∵ (+ × −= −)]
= -120

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

iv. (-6) × 6 × (-10)

Solution:-

Using the rule for Multiplication of integers.
In this question first we have to multiply the integers with same sign and then from the answer that we get is multiplied with other integer of different sign,

= {(-6×-10) ×6} ... [∵(− × −= +)]
= {60×6}
= 360

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

v. 7×(-8) ×3

Solution:-

Using the rule for Multiplication of integers.
In this question first we have to multiply the integers with same sign and then from the answer that we get is multiplied with other integer of different sign,

= {(7×3) ×(-8)}
= {21×-8} ... [∵ (+ × −= −)]
=-168

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

vi. (-7) ×(-3) ×4

Solution:-

Using the rule for Multiplication of integers.
In this question first we have to multiply the integers with same sign and then from the answer that we get is multiplied with other integer of different sign,

= {(-7×-3) ×4} ... [∵(− × −= +)]
= {21×4}
=84

(In multiplication we have to multiply the sign of the integers also and then assign the obtained sign to the answer)

3. Find each of the following products:

i. (-4) ×(-5) ×(-8) ×(-10)

Solution:-

Using the rule for Multiplication of integers.
In this question we have four integers of same sign, so multiply tow integers once and then from the answers of both set of integers again multiplied and get the final answer.

= {(-4 ×-5) ×(-8×-10)} … [∵(− × −= +)]

= {(20) × (80)}

=1600

ii. (-6) ×(-5) ×(-7) ×(-2) ×(-3)

Solution:-

Using the rule for Multiplication of integers.

In this question we have five integers of same sign, so multiply tow integers once and then from the answers of both set of integers again multiplied and get the final answer.

= {(-6×-5) ×(-7×-2) ×(-3)} … [∵(− × −= +)]

= {(30) ×(14) ×(-3)}

= {(30 ×14) ×(-3)}

= {(420×-3)} … [∵ (+ × −= −)]

= -1260

iii. (-60) ×(-10) ×(-5) ×(-1)

Solution:-

Using the rule for Multiplication of integers.

In this question we have five integers of same sign, so multiply tow integers once and then from the answers of both set of integers again multiplied and get the final answer.

= {(-60×-10) ×(-5×-1)} … [∵(− × −= +)]

= {(600) ×(5)}

= 3000

iv. (-30) ×(-20) ×(-5)

Solution:-

Using the rule for Multiplication of integers.

In this question we have 3 integers of same sign, so multiply tow integers once and

Then from the answers of both set of integers again multiplied and get the final answer.

= {(-30×-20) ×(-5)} … [∵(− × −= +)]

= {600×-5}

= -3000 … [∵ (+ × −= −)]

v. (-3) ×(-3) ×(-3) × … 6 times

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

= {(-3) ×(-3) ×(-3) ×(-3) ×(-3) ×(-3)}

= {(-3×-3) × (-3×-3) × (-3×-3)} … [∵(− × −= +)]

= {9×9×9}

= {(9×9) ×9)

= {81×9)

= 729

This can also be written as,

$= (-3)^6$

= 729

vi. **(-5) ×(-5) ×(-5) … 5 times**

Solution:-

Using the rule for Multiplication of integers.

The above question can be written as,

= {(-5) ×(-5) ×(-5) ×(-5) ×(-5)}

= {(-5×-5) ×(-5×-5) ×(-5) … [∵(− × −= +)]

= {(25) ×(25) ×(-5)}

= {(25×25) ×(-5)}

= {625 ×-5} … [∵(− × −= +)]

= -3125

This can also be written as,

$= (-5)^5$

= -3125

vii. **(-1) ×(-1) ×(-1) × … 200 times**

Solution:-

Using the rule for Multiplication of integers.

$= (-1)^{200} = 1$

(∵ Multiplying one with itself is 1 only. But, for deciding whether it is to be positive or negative by the value of powers, if it is even number the answer should be in positive or negative when it is odd number)

viii. **(-1) ×(-1) ×(-1) × … 171times**

Solution:-

Using the rule for Multiplication of integers.

$= (-1)^{200} = -1$

(∵ Multiplying one with itself is 1 only. But, for deciding whether it is to be positive or negative by the value of powers, if it is even number the answer should be in positive or negative when it is odd number)

4. **What will be the sign of the product, if we multiply 90 negative integers and 9 positives integers?**

Solution:-

If we multiply the 90 -ve integers the answer we are getting is positive integer. Because, 90 is an even number and the product of even number of negative integer is positive. The product of number of positive integer is not affect the sign of product. So the product obtained from this is positive.

5. **What will be the sign of the product, if we multiply 103 negative integers and 65 positives integers?**

Solution:-

If we multiply the 103 -ve integers the answer we are getting is negative integer. Because, 103 is an odd number and the product of odd number of negative integer is negative. The product of number of positive integer is not affect the sign of product. So the product obtained from this is negative.

6. **Simplify:**

i. **(-8) ×9 + (-8) ×7**

Solution:-

Using the Distributive Law of Multiplication [(a×b) + (a×c) = a ×(b+c)]
Let,
a = -8, b = 9, c = 7
Then,
= (-8) ×9 + (-8) ×7
The above equation can be written as,
= (-8) ×(9+7) ... [∵(a×b) + (a×c) = a ×(b+c)]
= (-8) ×(16) ... [∵ (− × += −]
= -128

ii. 9 × (-13) +9 × (-7)

Solution:-

Using the Distributive Law of Multiplication [(a×b) + (a×c) = a ×(b+c)]
Let,
a=9, b=-13, c=-7
Then,
= 9 × (-13) +9 × (-7)
The above equation can be written as,
=9 ×{(-13) + (-7)} ... [∵(a×b) + (a×c) = a ×(b+c)]
= 9×{(-13-7)} ... [∵(− × −= +)]
=9×{-20} ... [∵ (+ × −= −)]
= -180

iii. 20 × (-16) + 20 × 14

Solution:-

Using the Distributive Law of Multiplication [(a×b) + (a×c) = a ×(b+c)]
Let,
a=20, b=-16, c= 14
Then,
= 20 × (-16) + 20 × 14
The above equation can be written as,
= 20 × {(-16) + 14} ... [∵(a×b) + (a×c) = a ×(b+c)]
= 20 × {-2} ... [∵ (+ × −= −)]
= -40

iv. (-16) × (-15) + (-16) × (-5)

Solution:-

Using the Distributive Law of Multiplication [(a×b) + (a×c) = a ×(b+c)]
Let,
a= -16, b= -15, c= -5
Then,
(-16) × (-15) + (-16) × (-5)
The above equation can be written as,
= (-16) × {(-15) + (-5)} ... [∵(a×b) + (a×c) = a ×(b+c)]
= (-16) × {(-15- 5)} ... [∵ (+ × −= −)]
= (-16) × {-20} ... [∵(− × −= +)]
= 320

v. **(-11) × (-15)+ (-11) ×(-25)**

Solution:-

Using the Distributive Law of Multiplication [(a×b) + (a×c) = a ×(b+c)]

Let,

a= -11, b= -15, c= -25

Then,

= (-11) × (-15) + (-11) ×(-25)

The above equation can be written as,

= (-11) × {(-15) + (-25)} ... [∵(a×b) + (a×c) = a ×(b+c)]

= (-11) × {-15-25} ... [∵ (+ × −= −)]

= (-11) × (-40) ... [∵(− × −= +)]

= 440

vi. **10 × (-12) + 5 × (-12)**

Solution:-

Using the Distributive Law of Multiplication [(a×c) + (b×c) = (a + b) ×c)]

Let,

a= 10, b= 5, c= -12

Then,

=10 × (-12) + 5 × (-12)

The above equation can be written as,

= {(10+5) × (-12)} ... [∵(a×c) + (b×c) = (a + b) ×c)]

= {(15) × (-12)} ... [∵ (+ × −= −)]

= -180

vii. **(-16) × (-8) + (-4) × (-8)**

Solution:-

Using the Distributive Law of Multiplication [(a×c) + (b×c) = (a + b) ×c)]

Let,

a= -16, b= -4, c= -8

Then,

= (-16) × (-8) + (-4) × (-8)

The above equation can be written as,

= {((-16) + (-4)) × (-8)} ... [∵(a×c) + (b×c) = (a + b) ×c)]

= {(-16-4) ×(-8)} ... [∵ (+ × −= −)]

= {-20 × (-8)} ... [∵(− × −= +)]

= 160

viii. **(-26) × 72 + (-26) × 28**

Solution:-

Using the Distributive Law of Multiplication [(a×b) + (a×c) = a ×(b+c)]

Let,

a= -26, b= 72, c= 28

Then,

= (-26) × 72 + (-26) × 28

The above equation can be written as,

= {(-26) ×(72 + 28)} ... [∵(a×b) + (a×c) = a ×(b+c)]

= {(-26) ×(100)} ... [∵(−×−=+)]

= -2600

7. Fill in the blank:

i. (-6) × (.....) = 6

Solution:-

Using the closure property of multiplication, [a×b = c]

Let,

a= -6, missing number b=x, c= 6

= (-6) ×(x) = 6

(By sending -6 from Left hand side to the denominator of the right hand side in the multiplication, the sign remain unchanged)

= x =$(\frac{6}{-6})$

(∵ ÷ Both numerator and denominator by 6)

= x= -1

ii. (-18) × (....) = (-18)

Solution:-

Using the closure property of multiplication, [a×b = c]

Let,

a= -18, missing number b=x, c= -18

= (-18) × (x) = (-18)

(By sending -18 from Left hand side to the denominator of the right hand side in the multiplication, the sign remain unchanged)

= x =$(\frac{-18}{-18})$

(∵ ÷ Both numerator and denominator by -18)

= x = 1

iii. (-8) × (-9) = (-9) × (....)

Solution:-

Using the Commutative law of multiplication [a×b = b×a]

Let,

a= -8, b=-9

= (-8) × (-9) = (-9) × (-8)

iv. 7× (-3) = (-3) × (.....)

Solution:-

Using the Commutative law of multiplication [a×b = b×a]

Let,

a= 7, b=-3

= 7 × (-3) = (-3) × (7)

v. {(-5) ×3}× (-6) = (....) × {3× (-6)}

Solution:-

Using the Associative law of Multiplication [(a × b) ×c = a× (b × c)]

Let,

a= -5, b=3, c= -6

= {(-5) ×3} × (-6) = (-5) × {3 × (-6)}

vi. **(-5) × (...) = 0**

Solution:-

Using the closure property of multiplication, [a×b = c]

Let,

a= -5, missing number b=x, c= 0

= (-5) × (x) = 0

(By sending -5 from Left hand side to the denominator of the right hand side in the multiplication, the sign remain unchanged)

= x =$(\frac{0}{-5})$

= x = 0

(∵ Anything is divided by zero the answer is zero itself)

8. **In a class test containing 10 questions, 5 marks are awarded for every correct answer and (-2) marks are awarded for every incorrect answer and 0 for each question not attempted.**

i. **Ravi gets 4 correct and 6 incorrect answer. What is his score?**

ii. **Reenu gets 5 correct and 5 incorrect answers. What is her score?**

iii. **Heena gets 2 correct and 5 incorrect answers. What is her score?**

Solution:-

From the question we have 5 marks for correct answer and (-2) marks for incorrect answer.

Now. We get,

i. Ravi's score,

4 correct answer = 4 × 5 = 20

6 incorrect answer = 6 × (-2) = -12

= 20+ (– 12)

=20 -12

= 8

ii. Reenu's score,

5 correct answer= 5×5 = 25

5 incorrect answer= 5× (-2) = -10

= 25 + (-10)

= 25 – 10

=15

iii. Heena's score,

2 correct answer = 2 × 5 = 10

5 incorrect answer = 5× (-2) = -10

3 not attempted = 0

= 10 + (-10) +0

= 10 -10

= 0

9. Which of the following statement are true and which are false?

i. The product of positive and a negative integer is negative.

Solution:-

True. … [∵(−×−=+)]

ii. The product of two negative integer is a negative.

Solution:-

False. Because the number of negative signs is even, the product will be a positive integer.

iii. The product of three negative integers is a negative integer.

Solution:-

True. Because the number of negative signs is odd, the product will be a negative integer.

iv. Every integer when multiplied with -1 gives its multiplicative inverse.

Solution:-

False. Because Multiplicative inverse of 6 = $(\frac{1}{6})$

v. Multiplication on integers is commutative.

Solution:-

True. (a×b) = (b×a), (2×3) = (3×2)

vi. Multiplication on integers is associative.

Solution:-

True. (a × b) ×c = a× (b × c), (2 × 3) ×4 = 2× (3 × 4)

vii. Every nonzero integer has a multiplicative inverse as an integer.

Solution:-

False. Every non-zero b has a multiplicative inverse 1b. Which is not an integer.

RS Aggarwal Solutions for Class 7 Maths chapter 1
Integers

EXERCISE 1C PAGE: 12

1. Divide

i. 65 by -13

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

$= 65 \div (-13)$

$= (\frac{65}{-13})$

$= -5$

ii. -84 by 12

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

$= (-84) \div 12$

$= (\frac{-84}{12})$

$= -7$

iii. -76 by 19

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

$= (-76) \div 19$

$= (\frac{-76}{19})$

$= -4$

iv. -132 by 12

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

$= (-132) \div 12$

$= (\frac{-132}{12})$

$= -11$

v. -150 by 25

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

= (-150) ÷ 25
$=(\frac{-150}{25})$
=-6

vi. -72 by -18

Solution:-

For dividing one integer by the other having like signs, we divide their values regardless of their signs and give a plus sign to the quotient.

The above question can be written as,

= (-72) ÷ (-18)
$=(\frac{-72}{-18})$
= 4

vii. -105 by -21

Solution:-

For dividing one integer by the other having like signs, we divide their values regardless of their signs and give a plus sign to the quotient.

The above question can be written as,

= (-105) ÷ (-21)
$=(\frac{-105}{-21})$
= 5

viii. -36 by -1

Solution:-

For dividing one integer by the other having like signs, we divide their values regardless of their signs and give a plus sign to the quotient.

The above question can be written as,

= (-36) ÷ (-1)
$=(\frac{-36}{-1})$
= 36

ix. 0 by -31

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

= (0) ÷ (-31)
$=(\frac{0}{-31})$
= 0

x. – 63 by 63

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

= (-63) ÷ 63

$=(\frac{-63}{63})$

= -1

xi. -23 by -23

Solution:-

For dividing one integer by the other having like signs, we divide their values regardless of their signs and give a plus sign to the quotient.

The above question can be written as,

= (-23) ÷ (-23)

$=(\frac{-63}{63})$

=1

xii. -8 by 1

Solution:-

For dividing one integer by the other, the two having unlike signs, we divide their values regardless of their signs and give a minus sign to the quotient.

The above question can be written as,

= (-8) ÷ 1

$= (\frac{-8}{1})$

= -8

2. Fill in the blanks:

i. 72 ÷ (.....) = -4

Solution:-

Let the missing number be x

= 72 ÷ (x) = -4

$=(\frac{72}{x})$= -4

By sending x from left hand side to the numerator of the right hand side and -4 from the right hand side to the denominator of the left hand side.

$= \left(\frac{72}{-4}\right)$= x ... [÷ by 4]

= x = -18

ii. -36 ÷ (.....) = -4

Solution:-

Let the missing number be x

= -36 ÷ (x) = -4

$=(\frac{-36}{x})$= -4

By sending x from left hand side to the numerator of the right hand side and -4 from the right hand side to the denominator of the left hand side.

Then,

$=(\frac{-36}{-4})$=x

= 9 = x

iii. (.....)÷(-4) = 24

Solution:-

Let the missing number be x

=(x) ÷ (-4) = 24

=($\frac{x}{-4}$)= 24

By sending -4 from left hand side to the numerator of the right hand side.

Then,

= x = 24 × (-4)

= x = -96

iv. (.....)÷25 = 0

Solution:-

Let the missing number be x

=(x) ÷ (25) = 0

=($\frac{x}{25}$)= 0

By sending 25 from left hand side to the numerator of the right hand side.

Then,

= x = 0 × 25

= x = 0

v. (.....)÷(-1) = 36

Solution:-

Let the missing number be x

=(x) ÷ (-1) = 36

=($\frac{x}{-1}$)= 36

By sending -1 from left hand side to the numerator of the right hand side.

Then,

= x = 36 × (-1)

= x = -36

vi. (.....)÷(1) = -37

Solution:-

Let the missing number be x

=(x) ÷ (1) = -37

=($\frac{x}{1}$)= -37

By sending -1 from left hand side to the numerator of the right hand side.

Then,

= x = -37 × (1)

= x = -37

vii. 39 ÷ (....) = -1

Solution:-

Let the missing number be x

= (39) ÷ (x) = -1

$=(\frac{39}{x})= -1$

By sending x from left hand side to the numerator of the right hand side and -1 from the right hand side to the denominator of the left hand side.

Then,

$= (\frac{39}{-1})= x$

$= x = -39$

viii. **1 ÷ (....) = -1**

Solution:-

Let the missing number be x

$= (1) \div (x) = -1$

$=(\frac{1}{x})= -1$

By sending x from left hand side to the numerator of the right hand side and -1 from the right hand side to the denominator of the left hand side.

Then,

$= (\frac{1}{-1})= x$

$= x = -1$

ix. **-1 ÷ (....) = -1**

Solution:-

Let the missing number be x

$= (-1) \div (x) = -1$

$=(\frac{-1}{x})= -1$

By sending x from left hand side to the numerator of the right hand side and -1 from the right hand side to the denominator of the left hand side.

Then,

$= (\frac{-1}{-1})= x$

$= x = 1$

3. Write (T) for true and (F) for false for each of the following statements:

i. **0 ÷ (-4) = 0**

Solution:-

True (T). Dividing zero by negative or positive integer gives zero.

ii. **-6 ÷ (0) = 0**

Solution:-

False (F). Dividing any integer by zero gives an indefinite number.

iii. **(-5) ÷ (-1) = -5**

Solution:-

False (F). Because $(\frac{-5}{-1})= 5$

iv. **(-8) ÷ 1 = -8**

Solution:-

True (T). Because $(\frac{-8}{1})$= -8

v. **(-1) ÷ (-1) = -1**

Solution:-

False (F). Because $(\frac{-1}{-1})$= 1

vi. **(-9) ÷ (-1)= 9**

Solution:-

True (T). Because $(\frac{-9}{-1})$= 9

RS Aggarwal Solutions for Class 7 Maths chapter 1
Integers

EXERCISE 1D PAGE: 12

Mark against the correct answer in each of the following:

1. **6-(-8) =?**

   a) -2 b) 2 c) 14 d) none of the above

   Solution:-
   = 6-(-8)
   = 6+8
   = 14(c)

2. **-9-(-6) =?**

   a) -15 b) -3 c) 3 d) none of these

   Solution:-
   = -15- (-6)
   = -15 +6
   = -9
   None of the above(d)

3. **By how much does 2 exceed -3?**

   a)-1 b) 1 c)-5 d)5
   Solution:-
   = 2-(-3)
   = 2+3
   =5(d)

4. **What must be Subtract from -1 to get -6?**

   a) 5 b) -5 c) 7 d) -7
   Solution:-
   Let us assume closure property of subtraction [a-b=c]
   Let,
   a= -1, missing integer b= x, c=-6
   = -1-(x) =-6
   = -1+6 = x
   (By sending -6 from the right hand side to the left hand side it becomes 6 and –x from the left hand side to the right hand side it becomes x)
   = x = 5(a)

5. **How much less than -2 is -6?**

   a) 4 b) -4 c)8 d)-8
   Solution:-
   = (-2)-(-6)
   = -2 + 6
   = 4(a)

6. **On subtracting 4 from -4, we get**

a) 8 **b) -8** **c)0** **d)none of these**

Solution:-

= 4-(-4)

=4+4

=8(a)

7. By how much does -3 exceed -5?

a) -2 **b) 2** **c) 8** **d) -8**

Solution:-

= (-3) – (-5)

= -3+5

= 2(b)

8. What must be subtracted from -3 to get -9?

a) -6 **b) 12** **c) 6** **d)-12**

Solution:-

Let us assume closure property of subtraction [a-b=c]

Let,

a= -3, missing integer b= x, c=-9

= -3-(x) =-9

= -3+9 = x

= x = 6(c)

9. On subtracting 6 from -5, we get

a) 1 **b) 11** **c) -11** **d)none of these**

Solution:-

= 6-(-5)

=6 + 5

=11(b)

10. On subtracting -13 from -8, we get

a) -21 **b) 21** **c)5** **d) -5**

Solution:-

= -13 – (-8)

= -13 + 8

= -5(d)

11. (-36) ÷ (-9) =?

a) 4 **b) -4** **c)none of these**

Solution:-

$= \frac{-36}{-9}$

= 4(a)

12. 0 ÷ (-5) =?

a) -5 **b) 0** **c) not defined**

Solution:-

$= \frac{0}{-5}$

= 0 (b) (when zero is divided by any non-zero number, then the quotient is zero)