



MATHS

BOOKS - NAND LAL PUBLICATION

INTEGERS



2. Arrange 7,5,4, 0 and -4 in ascending order and then mark them on a

number line to check your answer .

3. We have done various patterns with numbers in pur previous class . Can you find a pattern for each of the following ? If yes competer them 7,3,-1,-5,...... Make some more such patterns and ask your friends to complete them .

Watch Video Solution



5. We have done various patterns with numbers in pur previous class .Can you find a pattern for each of the following ? If yes competer them

15 ,10,5,0,...... Make some more such patterns and ask your friends to complete them .

Watch Video Solution

6. We have done various patterns with numbers in pur previous class . Can you find a pattern for each of the following ? If yes competer them `-11,-8,-5,-2,....., Make some more such patterns and ask your friends to complete them .

Watch Video Solution

7. Write a pair of integers whose sum gives

a nagative integer

8. Write a pair of integers whose sum gives

zero



9. Write a pair of integers whose sum gives

An integer smaller than both the intergers

Watch Video Solution

10. Write a pair of integers whose sum gives

An integer

Watch Video Solution

11. Write a pair of integers whose sum gives positive integer

12. Write the pair of integers whose difference gives





15. Write the pair of integers whose difference gives

an integer smaller than both the intergers .

Vatch Video Solution
16. Write the pair of integers whose difference gives
an integer greater than both the intergers.
Vatch Video Solution

17. Find 4 imes (-8) Using the number line .

Watch Video Solution

18. Find 8 imes (-2) Using the number line .





23. Find in a similar way

$$6 imes (-5) = =,$$



24. Find in a similar way

3 imes(-7)=....=

Watch Video Solution

25. Find 6 imes (-19)

Watch Video Solution

26. Find 12 imes (-32)

27. Find 7 imes(-22)

Watch Video Solution





(- 4) imes 8, (- 3) imes 7, (- 6) imes 5 and (- 2) imes 9 Check whether

$$(\,-\,6) imes 5 = 6 imes (\,-\,5)$$





32. Find
$$15 \times (-16)$$

Watch Video Solution

33. Find 21 imes (-32)

34. Find (-42) imes 12



35. Find -55 imes 15

Watch Video Solution

36. Check if 25 imes (-21) = (-25) imes 21 Write five more such examples .

Watch Video Solution

37. Check if (-23) imes 20=23 imes (-20)

Write five more such examples .

38. Five more such examples are as follows

 $20 imes (\,-15) = (\,-20) imes 15$



39. Five more such examples are as follows

$$(-9) imes 8=9 imes (-8)$$

Watch Video Solution

40. Five more such examples are as follows

$$12 imes (\,-10) = (\,-12) imes 10$$

Watch Video Solution

41. Five more such examples are as follows

$$(\,-\,100) imes 79 = 100 imes (\,-\,79)$$



42. Five more such examples are as follows

 $11 imes (\, -12) = (\, -11) imes 12$

Watch Video Solution

43. Starting from $(\,-5) imes 4$, find $(\,-5) imes (\,-6)$

Watch Video Solution

44. Starting from (-6) imes 3 find (-6) imes (-7)

Watch Video Solution

45. Find :
$$(-31) \times (-100)$$

46. Find :
$$(-25) \times (-72)$$

Watch Video Solution
47. Find : $(-83) \times (-28)$
Watch Video Solution
48. Is $10 \times [(6) + (-2)] = 10 \times 6 + 10 \times (-2)?$
Watch Video Solution

$$(\,-15) imes [(\,-7) + (\,-1)] = (\,-15) imes (\,-7) + (\,-15) imes (\,-1)?$$





54. Find 70 imes (-19) + (-1) imes 70 Using distributive property



58. Find $(-32) \div 2$







60. Find $80 \div (-5)$

Watch Video Solution

61. Find $64 \div (-16)$

Watch Video Solution

62. Find $(-36) \div (-4)$

63. Find

$$(-201) \div (-3)$$

Watch Video Solution

64. Find
$$(-325) \div (-13)$$

Watch Video Solution

Questions

1. Following are some pairs of integers .Observe the following table and complete it .

Statement Obervation

- (i) 17 + 23 = 40 Result is an integer
- (ii) $-10 + 3 = \dots$
- (iii) $(-75) + 18 = \dots$
- (iv) 19 + (-25) = -6 Result is an integer

(v) $27 + (-27) = \dots$

(vi) $(-20) + 0 = \dots$

(vii) $(-35) + (-10) = \dots \dots \dots$

What do you observe ? Is the sum of two intergers always an integer? Did

you find a pair of integers whose sum is not an integer ?

Watch Video Solution

2. What happens when we subtract an interger from another integer ? Can we say that the difference is also an integer ? Observe the following table and complete it .

 Statement
 Observation

 (i) 7 - 9 = -2 Result is an interger

 (ii) $17 - (-21) = \dots$

 (iii) $17 - (-21) = \dots$

 (iii) (-8) - (-14) = 6 Result is an integer.

 (iv) $(-21) - (-10) = \dots$

 (v) $32 - (-17) = \dots$

 (vi) $(-18) - (-18) = \dots$

 (vii) $(-29) - 0 = \dots$

What do you observe ? Is there any pair of integer whose difference is not an integer ? Can we say integers are close under subtraction ?

Watch Video Solution

3. We know that 3 + 5 = 5 + 3 = 8 that is the whole numbers can be added in any order . In other words , addition is commutative for whole numbers

Can we say the same fot integers also ? We have 5 + (-6) = (-6) + 5

Are the following equal ?

(i)
$$(-8) + (-9)$$
 and $(-9) + (-8)$

(ii) (-23) + 32 and 32 + (-23)

(iii) (-45) + 0 and 0 + (-45)

Try this with five other pairs of inegers .Do you find any pairs of intergers for which the sums are different when the order is changed ?



4. Let us try with five other pairs of integers .

$$2 + (-4)$$
 and $(-4) + 2$
Watch Video Solution
5. Let us try with five other pairs of intergers .
 $(-5) + (-10)$ and $(-10) + (-5)$
Watch Video Solution

6. Let us try with five other pairs of intergers .

37 + 16 and 16 + 37

Watch Video Solution

7. Let us try with five other pairs of integers .

(-12) + 18 and 18 + (-12)

8. Let us try with five other pairs of integers (-100) + (-200) and (-200) + (-100)

Watch Video Solution

9. If a , b and c are three integers then

$$a + (b + c) = (a + b) + c$$

i.e addition is associative for integers Consider -3,1,-7 (-3)+[1+(-7)]=-3+.....=.....

 $([(-3)+1]+(-7)=-2+\ldots\ldots =\ldots Is(-3)+[1+($

same as [(-3)+1]+(-7) ? Take 5 more such examples . You will not

find nay example for which the sums are different .

View Text Solution

10. Let us take five more such examples to verify Associativity.

$$(-1) + [(-2) + (-3)]$$
 and $[(-1) + (-2)] + (-3)$



11. Let us take five more such examples to verify Associativity.

$$(-5) + [(-15) + 10]$$
 and $[(-5) + (-15)] + 10$

Watch Video Solution

12. Let us take five more such examples to verify Associativity.

$$[(-8) + (-2)] + 11$$
 and $(-8) + [(-2) + 11]$

Watch Video Solution

13. Let us take five more such examples to verify Associativity.

[10 + 20] + (-30) and 10 + [20 + (-30)]

14. Let us take five more such examples to verify Associativity.

$$[5+7] + 9$$
 and $5 + [7+9]$

Watch Video Solution

15. When we add zero to any whole number we get the same whole number Zero is called the additive identity for whole numbers .Is it an additive identity again for integers also Observe the following and fill in the blanks

- (i) (-8)+0=-8
- (ii) 0+(-8)=-8
- (iii) (-23) +0=
- (iv) 0+(-37)=-37
- (v) 0+(-59)=...
- (vi) 0+...=-43
- (vii) -61 +....=-43
- (vii) -61 +...=-61
- (viii) ..+0=

The above examples shows that zero is an additive identity for integers . you can verify it by a adding zero to any other five integers . In general , for any integer a ,

a+0=0+a=a

Watch Video Solution

16. Can you find the product $(-3) \times (-2)$?

Watch Video Solution

17. Can you find the product (-3) imes (-2) ? Observe the following

 $-3 \times 4 = -12$ $-3 \times 3 = -9 = -12 - (-3)$ $-3 \times 2 = 6 = -9 - (-3)$ $-3 \times 1 = -3 = -6 - (-3)$ $-3 \times 0 = 0 = -3 - (-3)$ $-3 \times -1 = 0 - (-3) = 0 + 3 = 3$ $-3 \times -2 = 3 - (-3) = 3 + 3 = 6$ Do you see any pattern ? Observe how the product changes Based on this observation , complete the following :

-3 imes -4 =

Watch Video Solution

18. Now observe these products and fill in the blanks $-4 \times 4 = -16$ $-4 \times 3 = -12 = -16 + 4$ $-4 \times 2 = \dots = -12 + 4$ $-4 \times 2 = \dots = -12 + 4$ $-4 \times 1 = \dots = -4 \times (-1) = \dots = -4 \times (-1) = \dots = -4 \times (-3) = -4 \times (-3) = \dots = -4 \times (-3) = \dots = -4 \times (-3) = -4 \times$

19. What is the product of first five negative negative integers ? So , what

will be the product of first six negative integers ?

Watch Video Solution

20. Observe the following table and complete it .

Statement	Inference
(20) × (- 5) = 100	Product is an integer.
$(-15) \times 17 = -255$	Product is an integer
$(-30) \times 12 = -360$	Product is an integer
$(-15) \times (-23) = 345$	Product is an integer
$(-14) \times (-13) = 182$	Product is an integer
$12 \times (-30) = -360$	Product is an integer

What do you observe ? Can you find a pair of integer whose product not

an integer?



21. We know that multiplicatio is commutative for whole numbers : Can we say multiplication is also commutative for integers ?



Think Discuss And Write

1. The product $(\,-9) imes(\,-5) imes(\,-6) imes(\,-3)$ is positive where as the

product $(-9) \times (-5) \times 6 \times (-3)$ is negative .Why?

Watch Video Solution

2. What will be the sign of the product if we multiply together

8 negative integers and 3 positive intergers ?

Watch Video Solution

3. What will be the sign of the product if we multiply together

5 negative integers and 4 positive integers ?

4. What will be the sign of the product if we multiply together

(-1), twelve times?



Observe this number line and write the temperature of the places marked on it .



at different places on a particular day





4. Following number line shown the temperature in degree celcius ($^{\circ}C$) at different places on a particular day



Can we say temperature of Srinagar and Shimla taken together is less than the temperature at Shimla ?Is is also less than the temperature at Srinagar ?



5. In a quiz ,positive marks are given for correct answers and negative marks are given for incorrect answers .If Jack 's score in five succesive

rounds were 25,-5,-10,15,10 what was hos total at the end .

D Watch Video Solution

6. At Srinagar temperature was $-5^{\,\circ}C$ on Monday and then it dropped by

 $2^{\circ}C$ on Tuesday .What was the temperature of Srinagar on Tuesday ? On

Wednesday , it rose by $4^\circ C$.What was the temperature on this day ?

> Watch Video Solution

7. A plane is flying at the height of 5000 m above the sea level .At a particular point , it is exactly above a submarine floating 1200 m below the sea level .What is the vertical distance between them ?



8. Mohan deposits Rs. 2000 in his bank account and withdraws Rs . 1642

from it next day .If withdrawl of amount from the account is represented

by a negative integer then how will you represent the amount deposited ? Find the balance in Mohan 's account after the withdrawl ?

Watch Video Solution

9. Rita goes 20 km towards east from a point A to the point B . From B she moves 30 km towards west along the same road .If the distance towards the east is represented by a positive integer , then how will you represent the distance travelled towards west ? By which integer will you represent her final position from A ?

Watch Video Solution

10. In a magic square each row, column and diagonal have the same sum.

Check which of the following is a magic square .

(ii)

(i)

5	-1	-4
5	-2	7
0	3	-3

1	-10	0
-4	-3	-2
-6	4	-7



13. A water tank has steps inside it . A monkey is sitting on the top most

step (i.e . The first step). The water leve is at the ninth step .



He jumps 3 steps down and then jumps back 2 steps up . In how many jumps will he reach the water level ?



14. A water tank has steps inside it . A monkey is sitting on the top most

step (i.e. The first step). The water leve is at the ninth step .



After drinking water , he wants to go back .For this he jumps 4 steps up and theu jumps back 2 steps down in evergy move .In how many jumps will be reach back the top step ?

Watch Video Solution

15. A water tank has steps inside it . A monkey is sitting on the top most

step (i.e . The first step). The water level is at the ninth step .



If the number of steps moved down is represented by negative integers and the number of steps moved up by positive integers , represents his moves in part (i) and (ii) by completing the following (a) -3+2-....=-8 (b) 4-2+....=8 . In (a) the sum (-8) represents going down by eight steps .So what will the sum 8 in (b) represent?





1. Write down a pair of integers whose

sun is (-7)

Watch Video Solution

2. Write down a pair of integers whose

difference is (-10)

Watch Video Solution

3. Write down a pair of integers whose

sum is 0 .

Watch Video Solution

4. Write a pair of negative integers whose difference gives 8

5. Write a negative integer and a positive integer whose sum is - 4

Watch Video Solution		

6. Write a negative integer and a positive integer whose difference is -3.

Watch Video Solution

7. In a quiz , team A scored - 40 , 10 , 0 and team B scored 10 , 0 , - 40 three successive rounds .Which team scored more ? Can we say that can add integers in any order ?

Watch Video Solution

8. Fill in the blanks to make the following statements true

$$(-5) + (-8) = (-8) + _{-}$$





$$9.-53+_{-}=-53$$

10. Fill in the blank
$$17 + _ = 0$$

D Watch Video Solution

11.
$$[13 + (12)] + _ = 13 + [(-12) + (-7)]$$

Watch Video Solution

12.
$$(-4) + [15 + (-3)] = [-4 + 15] +$$
_

1. Find each of the following products

$$3 imes (\, -1) =$$

Watch Video Solution

2. Find each of the following products

$$(\,-1) imes 225 =$$

Watch Video Solution

3. Find each of the following products

$$(\,-21) imes (\,-30) =$$

4. Find each of the following products

$$(-316) \times (-1) =$$

Watch Video Solution

$$(\,-15) imes 0 imes (\,-18)$$

Watch Video Solution

6. Find each of the following products

$$(\,-12) imes (\,-11)] imes 10$$

Watch Video Solution

7. Find each of the following products

$$9 imes(\,-3) imes(\,-6)$$

8. Find each of the following products

$$(\,-\,18)\, imes\,(\,-\,5)\, imes\,(\,-\,4)$$

Watch Video Solution

9. Find each of the following products

$$(\,-1) imes (\,-2) imes (\,-3) imes 4$$

Watch Video Solution

10. Find each of the following products

$$(\,-3) imes(\,-6) imes(\,-2) imes(\,-1)$$



12. For any integer a, what is $(\,-1) imes\,$ a equal to ?

Watch Video Solution

13. Starting from $(-1) \times 5$ write varius products showing some pattern

to show (-1) imes (-1) = 1

Watch Video Solution

14. Find the products , using suitable properties .

$$26 imes (\,-48) + (\,-48) imes (\,-36)$$

15. Find the products, using suitable properties.





18. Find the products, using suitable properties.

 $625 imes (\,-35) + (\,-625) imes 65$

Watch Video Solution

19. Find the products , using suitable properties .

7 imes(50-2)

Watch Video Solution

20. Find the products , using suitable properties .

 $(\,-17) imes (\,-29)$

Watch Video Solution

21. Find the products, using suitable properties.

$$(-57) imes (-19) + 57$$

22. A certain freezing process required that room temperature be lowered from $40^{\circ}C$ at the rate of $5^{\circ}C$ every hour .What will be the room temperature 10 hours after the process begins ?

Watch Video Solution

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

Mohan gets four correct and six incorrect answers .What is his score ?



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

Reshma gets five correct answer and five incorrect answers . What is her

score ?

Watch Video Solution

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

Henna gets two correct and five incorrect answers out of seven questions

she attempts .What is her score ?



26. A cement company earns a profit of Rs.8 per bag of white cement sold and a loss of Rs.5 per bag of grey cement sold.

The company sells 3,000 bags of white cement and 5,000 bags of grey

cement in a month. What is tis profit or loss?

27. A cement company earns a profit of Rs.8 per bag of white cement sold and a loss of Rs.5 per bag of grey cement sold.

What is the number of white cement bags it mus sell to have neither profit nor loss, if the number of grey bags sold is 6,400 bags.

Watch Video Solution

28. Replace the blank with an integer to make it a true statement .

$$(-3) imes = 27$$

Watch Video Solution

29. Replace the blank with an integer to make it a true statement .

$$5 \times = (-35)$$

30. Replace the blank with an integer to make it a true statement .

.....
$$\times$$
 (- 8) = -56

Watch Video Solution

31. Replace the blank with an integer to make it a true statement .

 $\ldots \times (-12) = 132$

Watch Video Solution

Exercise 14

1. Evaluate each of the following :

$$(-30)\div10$$

 $50 \div (-5)$

Watch Video Solution

3. Evaluate each of the following :

$$(-36) \div (-9)$$

Watch Video Solution

4. Evaluate each of the following :

$$(-36) \div (-9)$$

 $(-49) \div (49)$

$$13 \div \left[\left({\,-2}
ight) + 1
ight]$$

Watch Video Solution

6. Evaluate each of the following :

$$0 \div (-12) = 0$$

Watch Video Solution

7. Evaluate each of the following :

$$(-31) \div [(-30) + (-1)]$$

Watch Video Solution

8. Evaluate each of the following :

$$[(-36)\div12]\div3$$

$$[(-6) \div 5] \div [(-2) + 1]$$

Watch Video Solution

10. Verify that $a \div (b+c)
eq (a \div b) + (a \div c)$ for each of the following

values of a,b and c

a = 12, b = -4, c = 2

Watch Video Solution

11. Verify that $a \div (b+c)
eq (a \div b) + (a \div c)$ for each of the following

values of a,b and c

$$a=(\,-\,10), b=1, c=1$$

12. Fill in the blanks

$$369 \div _ = 369$$

Watch Video Solution

13.
$$(-75) \div _ = -1$$

Watch Video Solution

14.
$$(-206) \div _ = 1$$

Watch Video Solution

15.
$$(-77) \div _{-} = 77$$

16.
$$_ \div 1 = -87$$



17.
$$(-48) \div _ = -1$$

Watch Video Solution

18.
$$20 \div _ = -2$$

Watch Video Solution

19.
$$_ \div 4 = -3$$

20. Write a pair of integers (a,b)such that $a \div b = -3$.One such pairs is

(6,-2) because
$$6 \div (-2) = (-3)$$

Watch Video Solution

21. The temperature at 12 noon was $10^{\circ}C$ above zero. If it decreases at the rate of $2^{\circ}C$ per hour until midnight, at what time would the temperature be $8^{\circ}C$ below zero? What would be the temperature at midnight?

Watch Video Solution

22. In a class test (+3) makrs are given for every correct answer and (-2) marks are given for every incorrect answer and no marks for not attempting any question.

Radhika scored 20 marks. If she has got 12 correct answer, how many

questions has she attempted incorrecly?

23. An elevator descends into a mine shaft at the rate of $6m / \min$. If the descent starts frm 10m above the ground level, how long will it take to reach -350 m.

Watch Video Solution

Additional Questions For Practice Objective Type Questions

1. Fill in the blanks : Next number in the pattern -10,-7,-4,-1 is _.

Watch Video Solution

2. When 0 is divided by a non zero integer quotient is _



7. Product of 7 negative integer is negative ,



Watch Video Solution

11. -7 . Divided by 0 is zero



Additional Questions For Practice Short Answer Type Questions

1. Justify the following statements .

Sum of a positive integer and a negative integer is always a positive integer.

Watch Video Solution

2. Product of two integers is always greater than the sum of integers.



5. Evaluate using suitable rearrangement .

50 imes 1695 imes 2

6. Sum of two integ	ers is - 24 . If one of	the integer is 30 , find the	e other .
----------------------------	-------------------------	------------------------------	-----------

Watch Video Solution
7. By what number should 625 to be divided to obtain (-25).
Watch Video Solution
8. Multiply 12 by (-1) and state whether the product is the additive inverse of 12 or not .
Watch Video Solution

Additional Questions For Practice Long Answer Type Questions

1.

210 imes [(-3) + (-7)] = [(-210) imes (-3)] + [(-210) imes (-7)]

2. A fruit merchant gets a profit of Rs. 120 per bag of apples sold and loss of Rs. 60 per bag on orange sold .find the number of bags of apples he should sell to make no profit no loss . If he sold 40 bags of oranges.

Watch Video Solution

3. A kite begin to decend towards the ground from aheight of 7250 feet .If it decends at the rate of 250 feet per minute , find the height after 15 minutes .

Watch Video Solution

4. At the end of fourth round of the quiz contest . Ranya scored 120 points . In the final round , she lost 3 points each for 6 questions and gained 2 points each for 7 questions . What was her score at the end ?

Sample Paper For Practice

1. Fill in the blanks

...... Is the greatest negative integer .

Watch Video Solution

2. There are pairs of integers satisfying $a \div b = -1$

Watch Video Solution

3. When we add an integer and its additive inverse we get

Watch Video Solution

4.9 km to south can be indicated using interger......





13. Justify the statements whether sum of two integers is always greater

then their difference .



15. Calculate the sum of $(7) + (-7) + (7) + (-7) + \dots$

If the number of terms is 199.



16. Find an integer which when multiplied by 3 and then divided by 2 becomes -21.



21. Rohan bought 80 chocolates . He kept 10 chocolates with him and distributed remaining chocolates equally among 7 friends .How many did each get ?

Watch Video Solution

22. Integers 10 , -7 , 5 ,3,-4, 0 are marked on the number line Arrange them in ascending order .Write the integer which lies on the extreme right and extreme left .

Watch Video Solution

23. Verify a imes (b+c) = a imes b + a imes c for a=3, b=-2, c=-1

$$(\,-31) \div [(\,-30) + (\,-1)]$$

Watch Video Solution

25. Evaluate

 $[(-39)\div13]\div3$