# B.K. BIRLA CENTRE FOR EDUCATION

**SARALA BIRLA GROUP OF SCHOOLS**
**A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL**

**TERM-II EXAMINATION (2025-26)**
**MATHEMATICS**
**MARKING SCHEME**

**Class: VI** **Set-2** **Time: 3 hrs.**
**Date: 21.03.26** **Max Marks: 80**
**Admission no:** **Roll no:**

## Section A

**Choose the correct answer** **1 x 20 = 20**

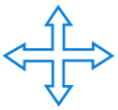
1. A maximum of _____ diagonals can be drawn in a rectangle,
   (a) Three (b) Two (c) One (d) Infinite

2. A figure made by only half circles is called _____,
   (a) line (b) rectangle (c) wavy wave (d) square

3. A circle has _____
   (a) No centres (b) no radius (c) a fixed radius (d) two centre

4. A protractor is used to _____ angles in degrees.
   (a) dance (b) sing (c) crawl (d) measure

5. Pictorial representation of data using symbols is known as_____
   (a) Bar graph (b) Pictograph (c) Pie chart (d) None of these

6. A figure with rotational symmetry looks the same after a 180° rotation.
   (a)  (b)  (c)  (d) 

7. How many lines of symmetry and angles of symmetry does Ashoka Chakra have?
   (a) 12 (b) 24 (c) 48 (d) 10
   

8. If each side of a square is halved then its area will be _____ .
   (a) same (b) one-fourth (c) half (d) double

9. The perimeter of a regular pentagon with each side measuring 5 cm is_____
   (a) 20 cm (b) 25 cm (c) 30 cm (d) 35 cm

10. What is the area of a square plot of side 25 m?
    (a) 100 $m^2$ (b) 200 $m^2$ (c) 600 $m^2$ (d) 625 $m^2$

11. Fractions with the same denominators are called ____ fraction.
(a) Like (b) unlike (c) unit (d) proper

12. If 1 glass of juice is equally shared between 3 children, each child gets _____ glass of juice.
(a) ¼ (b) 1/3 (c) ½ (d) 1/6

13. When a figure is rotated by 180° and it looks exactly the same, the figure has _____ symmetry.
(a) no (b) reflection (c) zero (d) rotational

14. The set of negative natural numbers and whole numbers is called _____ numbers
(a) natural (b) integers (c) positive (d) unique

15. A fraction with numerator greater than the denominator is called an _____
(a) improper (b) unlike (c) unit (d) proper

16. The greatest negative integer is _____
(a) -100 (b) -9 CD (c) -1 (d) Does not exist

17. The number which is neither positive nor negative is _____
(a) 1 (b) 5 (c) 0 (d) 10

18. The smallest positive integer is _____
(a) 0 (b) 1 (c) 100 (d) 9

19. Assertion (A): If the radius of a circle is 5 cm, then its diameter is 10 cm.
Reason (R) : The diameter is equal to two times the radius.
(a) Both A and R are true, and R is the correct explanation of A.
(b) Both A and R are true, but R is not the correct explanation of A.
(c) A is true, but R is false.
(d) A is false, but R is true.

20. Assertion (A) : An integer between – 3 and – 1 is – 2 .
Reason (R) : This collection of numbers is known as integers.
(a) Both A and R are true, and R is the correct explanation of A.
(b) Both A and R are true, but R is not the correct explanation of A.
(c) A is true, but R is false.
(d) A is false, but R is true.

## Section B

**Do as directed** **2 x 5 =10**

21. Complete these expressions using <, = or >.

(a) (-11)+ (-15) ____ 11 + 15

(b) (-71) + (+9) ___ (-81) + (-9)

Solution:

(a) (-11)+ (-15) = -26 and 11 + 15 = 26

Since, – 26 < 26, so (-11) + (-15) < 11 + 15

(b) (-71) + (+9) = – 62 and (-81) + (-9) = -90

Since, -62 > -90, so (-71) + (+9) > (-81) + (-9)

22. What is the length of the wooden strip required to frame a photograph of length 30 cm and breadth 10 cm?

Solution:

Given:

Length (l) = 30 cm

Breadth (b) = 10 cm

Formula:

Perimeter of rectangle = 2(l + b)

Calculation:

= 2(30 + 10)

= 2 × 40

= 80 cm

Answer:

The length of the wooden strip required is 80 cm.

or

The area of a rectangular garden 50 m long is 300 sq. m.. Find the width of the garden?

Solution:

Given:

Area of rectangular garden = 300 $m^2$

Length = 50 m

Formula:

Area of rectangle = Length × Width

300=50×Width

Width=300/50

Width=6 m

Answer:

The width of the garden is 6 metres.

23. Construct a line segment of length 5.6 cm using ruler and compass.

A 5.6 cm B

24. Ria scored 25 marks out of 30 in math's test and 35 marks out of 40 in science test. Represent the scores in fractional simplest form.

Solution:
Given:
Maths score = 25 out of 30
Science score = 35 out of 40
Fraction = 25/30
Divide numerator and denominator by 5:
= 25÷5 / 30÷5
=5/6
Simplest form = 5/6
Fraction = 35/40
Divide numerator and denominator by 5:
35÷5/40÷5
=7/8
Simplest form = 7/8
Maths = 5/6
Science = 7/8

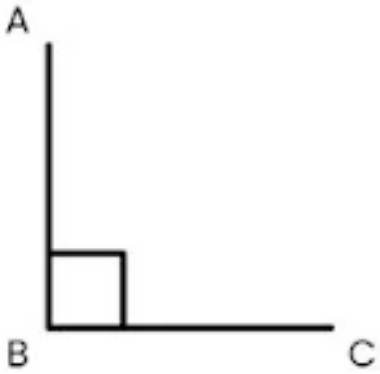
or

Compare the following fractions and justify your answers:

(a) $\frac{12}{5}$ < $\frac{12}{3}$ (b) $\frac{7}{3}$ > $\frac{2}{3}$

25. Draw a right angle and label it as ∠ABC

Solution:

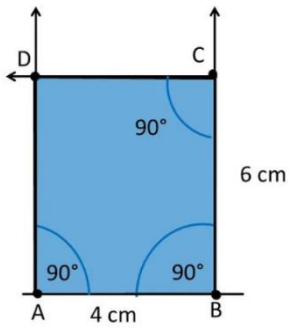



**Section C**

**Solve the following** **3 x 6 = 18**

26. Construct a rectangle with sides 4 cm and 6 cm. Verify if the diagonals are equal.

Solution:



27. Identify the following fractions:
(a) 6 hours of a day.
(b) 750 gms of a kilogram.
(c) 300 paise of a ₹ 3
Solution:
(a) A day has 24 hours.
Fraction = 6/24 = 1/4
(b) A kilogram is equal to 1000 grams.
Fraction = 750/1000 = ¾
(c) ₹ 1 = 100 paise
Fraction = 300 / 300 = 1/1 = 1

or

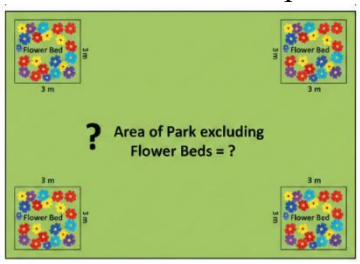
Find 3 equivalent fraction of (a) $\frac{2}{7}$ (b) $\frac{3}{2}$

Solution:
(a) Equivalent fractions of 2/7
Multiply by 2, 3, and 4:
2×2/7×2=4/14
2×3/7×3=6/21
2×4/7×4=8/28
Equivalent fractions: 4/14, 6/21, 8/28
(b) Equivalent fractions of 3/2
Multiply by 2, 3, and 4:
3×2/2×2=6/4
3×3/2×3=9/6
3×4/2×4=12/8
Equivalent fractions: 6/4, 9/6, 12/8

28. The adjoining figure shows the different variety of apples at a food store.
Observe the pictograph carefully and answer the following questions:
(a) Which variety of apple is available in maximum number at the food store?
(b) Which variety of apple is available in minimum number?
(c) How many apples of Golden Delicious variety is available at the store?

Solution:
The varieties of apples shown
The key (for example: = 10 apples or 1 symbol = 5 apples)
The number of symbols for each variety
Please upload or share the pictograph image so I can calculate:
(a) Maximum variety- Red Rome
(b) Minimum variety- McIntosh
(c) Number of Golden Delicious apples- 25

29. A rectangular park has a length of 75 meters and a breadth of 50 meters. At each of the four corners of the park, there is a square-shaped flower bed with a side length of 3 meters. Find the area of the park excluding the area occupied by the flower beds.




Solution:
Given:
Length of park = 75 m
Breadth of park = 50 m
Side of each square flower bed = 3 m
There are 4 square flower beds.
Area = Length × Breadth
= 75 × 50
= 3750 m²
Area of square = side²
= 3 × 3
= 9 m²
Area of 4 flower beds = 4 × 9
= 36 m²
Required area = Total area − Area of flower beds
= 3750 − 36
= 3714 m²

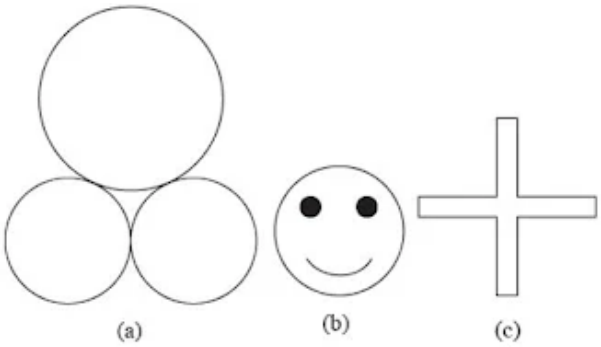
or

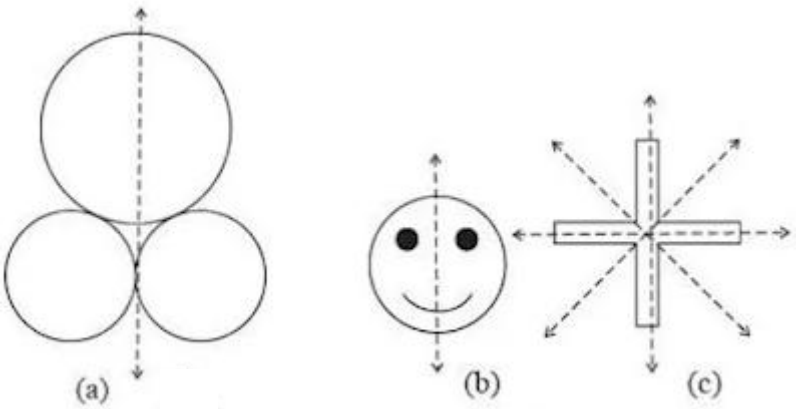
Perimeter of a square and a rectangle is same. If a side of the square is 15 cm and one side of the rectangle is 18cm, find the area of the rectangle.
Solution:
Given:
Side of square = 15 cm
One side of rectangle = 18 cm
Perimeter of square = Perimeter of rectangle
Perimeter of square = 4 × side
= 4 × 15
= 60 cm

Perimeter of rectangle = 2(l + b)
So,
2(l + b) = 60
Divide both sides by 2:
l + b = 30
Given one side = 18 cm
So other side = 30 − 18
= 12 cm
Area = length × breadth
= 18 × 12
= 216 cm²

30. Suppose you start with ₹ 0 in your bank account, and then you have credits of ₹ 30, ₹ 40, and ₹ 50, and debits of ₹ 40, ₹ 50, and ₹ 60. What is your bank account balance now?
Solution:
Given
Credits = ₹ 30 + ₹ 40 + ₹ 50 = ₹ 120
Debits = ₹ 40 + ₹ 50 + ₹ 60 = ₹ 150
Therefore balance = Credits - Debits
= ₹ 120 - ₹ 150
= - ₹ 30
Hence, your bank account balance is - ₹30.

31. Draw the line (s) of symmetry for each of the following figures :



## Section D

**Do as directed** **5 x 4 = 20**

32. Draw using rounder , protractor and ruler

A line segment of 5 cm. At its midpoint, draw a perpendicular line. What type of angle is formed between the two line segments?

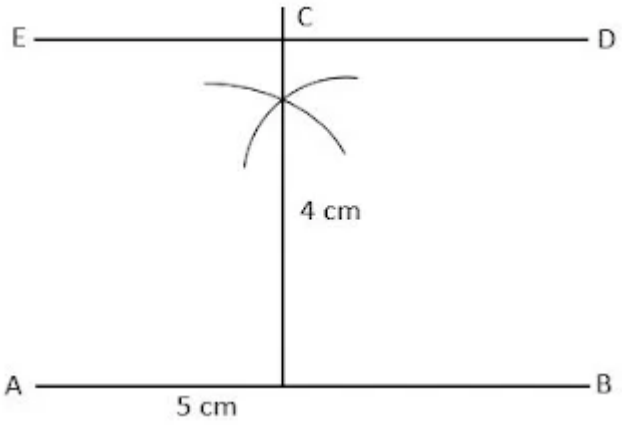
or

A pair of Parallel lines . What type of angle is formed between the two line segments?

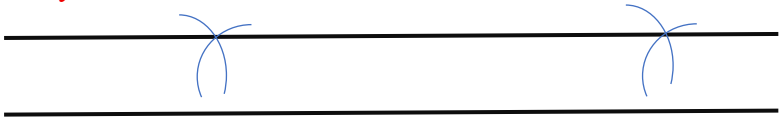
Solution:

Right angle (90°)

A perpendicular line forms a right angle with the original line segment.




The angle directly between two parallel lines is 0∘ , as they never meet



33. Complete the grid to make the required border sums:

| | | |
|---|---|---|
| −10 | | |
| | | −5 |
| 9 | | |

*Border sum is +4*

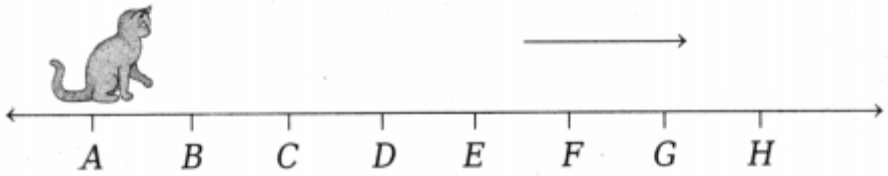
Different integers can be used to get the answer

Rows and Columns

or

The figure shows the position of a playing kitten. For every jump, it takes 3 steps ahead and 2 steps back. If the kitten is at the point A now, after how many

jumps will it be at point F?




Solution:

The forward movement in each jump is given by 3 - 2 = 1.

3 – 2 = 1 (A to D ) and (D to B )

So it is moving only one step a head.

A to D = 1st jump

D to B = 2nd jump

B to E = 3rd jump

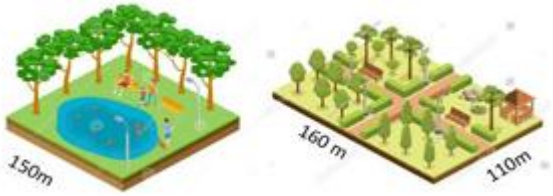
E to C = 4th jump

C to F = 5th jump ( reached its destination)

So to reach the point F from A,

the kitten takes 5 jumps.

34. Aman and Riya decided to include walking as part of their daily exercise routine. Aman walks around a square park with each side measuring 150 meters, while Riya walks around a rectangular park that is 180 meters long and 160 meters wide.




(a) If Aman completes 5 rounds around the square park, calculate the total distance he covers.

(b) If Riya completes 3 rounds around the rectangular park, determine the total distance she walks.

(c) If both Aman and Riya complete just one round each, find out who covers a greater distance and by how much.

Solution:

Given:

Square Park (Aman)

Side = 150 m

Rectangle Park (Riya)

Length = 180 m

Breadth = 160 m

(a) Distance covered by Aman in 5 rounds

Perimeter of square = 4 × side

= 4 × 150

= 600 m

Distance in 5 rounds = 600 × 5

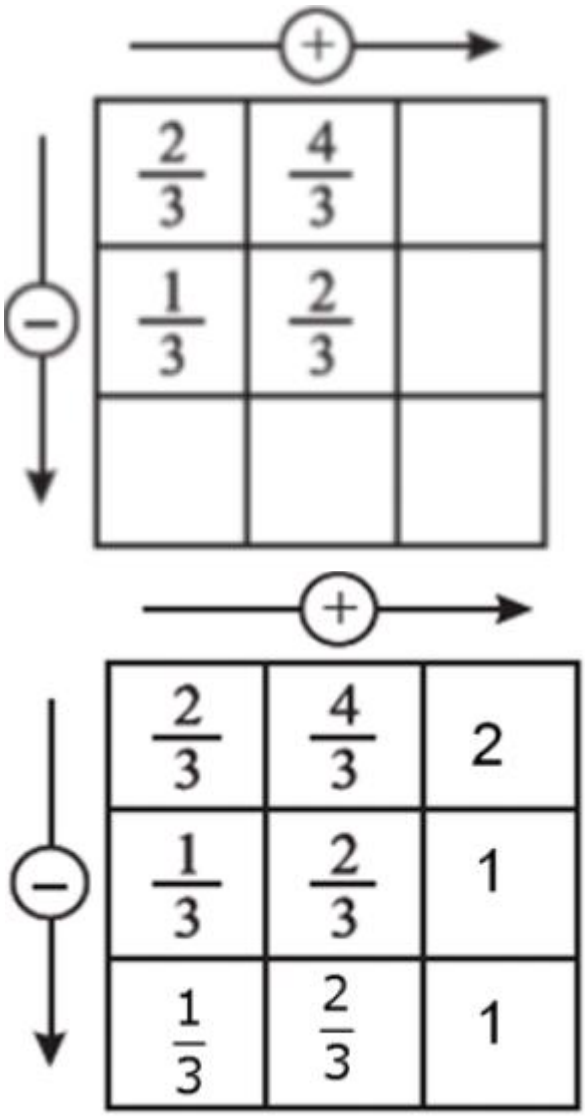
= 3000 m

Aman covers 3000 meters.

(b) Distance covered by Riya in 3 rounds

Perimeter of rectangle = 2(l + b)
= 2(180 + 160)
= 2 × 340
= 680 m
Distance in 3 rounds = 680 × 3
= 2040 m
Riya walks 2040 meters.
(c) Who covers more distance in one round and by how much?
Distance Aman covers in 1 round = 600 m
Distance Riya covers in 1 round = 680 m
Difference = 680 − 600
= 80 m
Riya covers 80 meters more than Aman in one round.

35. Complete the addition subtraction box.



## Section E

**Solve the following** **4 x 3 = 12**

36. A student is asked to construct a rectangle using geometrical construction. He is given the following information. One side of the rectangle is 5 cm. The length of the diagonal of the rectangle is 7 cm. To construct the rectangle accurately, the student follows a step-by-step geometrical method using a ruler and compass. Help the student for the construction.

Solution:

Construction of a Rectangle

Given:

One side = 5 cm

Diagonal = 7 cm

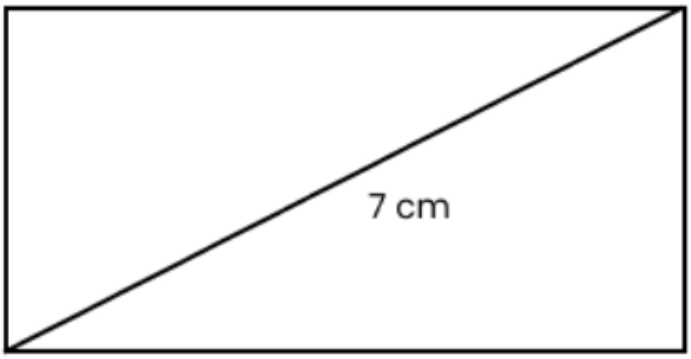
We construct the rectangle using ruler and compass.

Steps of Construction:

Draw a line segment AB = 5 cm.

(This is one side of the rectangle.)

At point A, construct a perpendicular line to AB using a compass.




With centre A and radius 7 cm, draw an arc cutting the perpendicular line at point D.

(AD = 7 cm is the diagonal.)

Join BD.

Through point B, draw a line parallel to AD.

(Use compass method to copy angle.)

Through point D, draw a line parallel to AB.

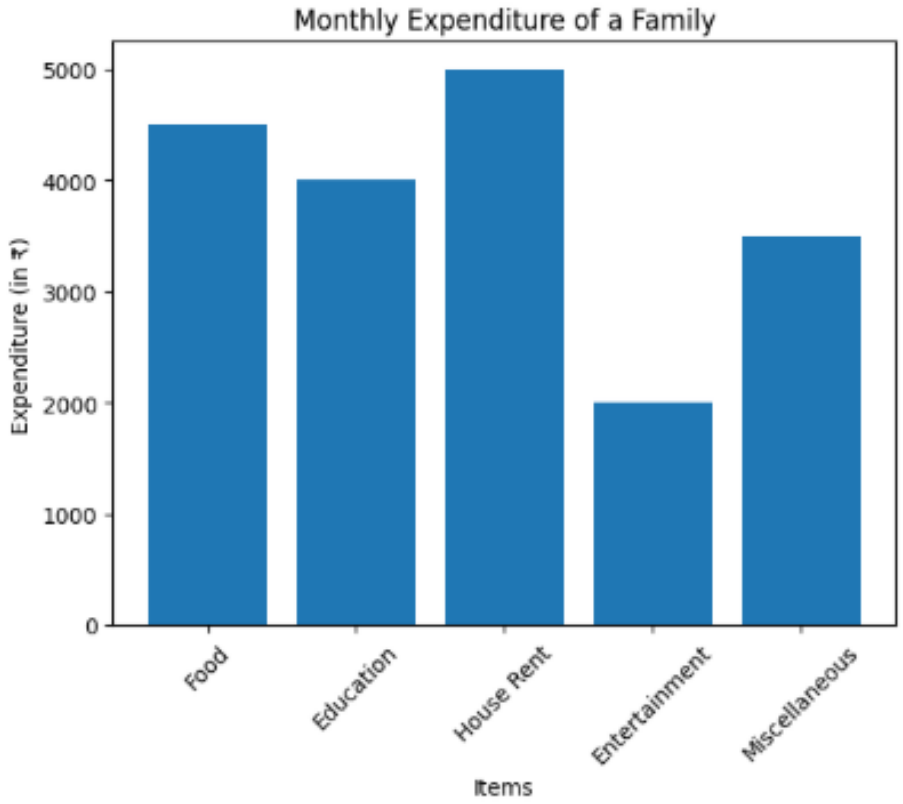
Let these two lines meet at point C.

ABCD is the required rectangle.

37. The following table shows the monthly expenditure of a family on various items:

| Item | Food | Education | House Rent | Entertainment | Miscellaneous |
|---|---|---|---|---|---|
| Expenditure | 4500 | 4000 | 5000 | 2000 | 3500 |

Draw a bar graph to represent the data.




38. A school canteen prepared fruit juice for 10 students. The flask had 5 glasses of juice. The teacher planned to distribute the juice equally, similar to the "sharing equally" activity. Later, 5 more students joined, and they again shared the same amount of juice equally. The teacher wanted students to compare the two fractions, understand equivalent fractions, and decide which group received more juice per student. They discussed whether increasing the number of children decreases each share.


(a) Fraction of juice per child in first group.
(b) Fraction of juice per child in second group.
(c) Which group gets more?

(d) Explain using equivalent fractions.

Solution:

Given:

Total juice = 5 glasses

First group = 10 students

Second group = 15 students (10 + 5)

(a) Fraction of juice per child in first group

Juice per child = Total juice ÷ Number of students

= 5 ÷ 10

= 5/10

5/10 = 1/2

Each child in the first group gets 1/2 glass.

(b) Fraction of juice per child in second group

Juice per child = 5 ÷ 15

= 5/15

5/15 = 1/3

Each child in the second group gets 1/3 glass.

(c) Which group gets more?

First group → 1/2

Second group → 1/3

Since 1/2 > 1/3,

The first group gets more juice per child.

(d) Explanation using equivalent fractions

Convert both fractions to equivalent fractions with common denominator 6:

1/2 = 3/6

1/3 = 2/6

Since 3/6 > 2/6,

the first group receives more juice per child.