

LaPIS Diagnostic Test Workbook - Mathematics

Name : Janushya M Y

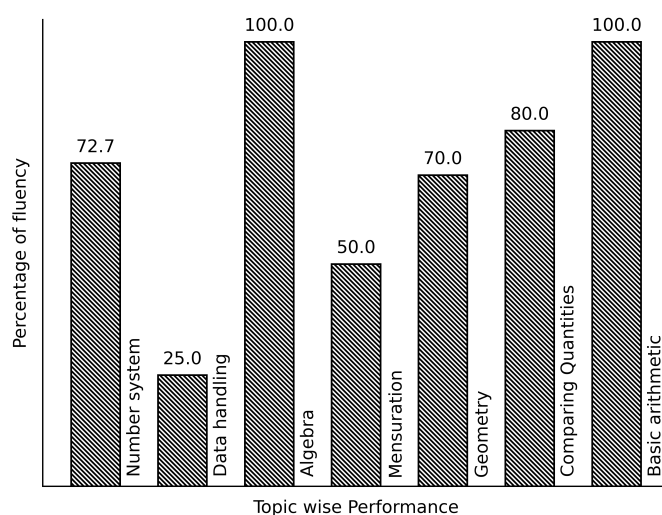
Class : 7

Section : C

School : AKV Public School

Login ID : AKV191

Janushya M Y's Performance Report



Score: 29/40

Percentage: 72.5%

Janushya M Y's Study Planner

Date	Topics Planned	Q. Numbers	Teacher Remark	Teacher Sign	Parent Sign

Teacher's Feedback to Student

Class Teacher Signature

Principal Signature

Mensuration

Topics to be Improved

Perimeter

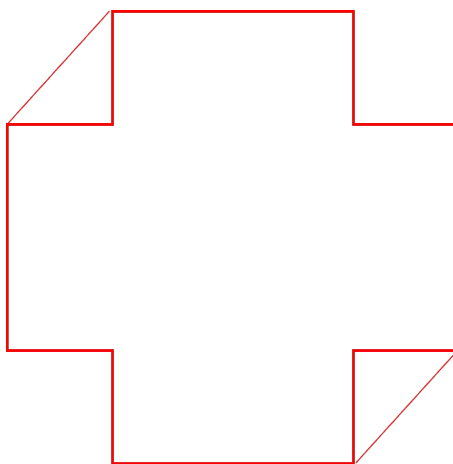
Perimeter of triangle

Hi, here in this video you will learn **Perimeter**



Question: 1

Highlight the perimeter in the given image.

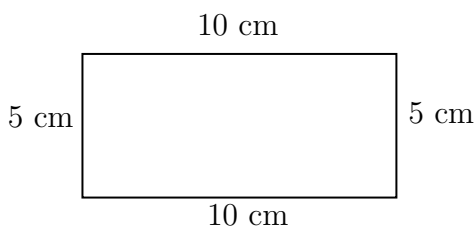


Answer:

Perimeter is the _____ (outer / inner) boundary of the shape

Question: 2

Find the perimeter of the given figure.



Answer:

Sides of the given shape = _____.

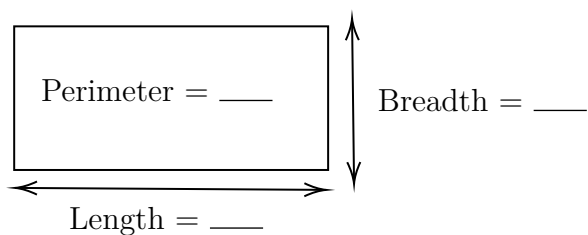
Perimeter of a shape is _____ (sum / difference) of _____ (all/ opposite) sides.

Perimeter of the given shape = _____

Question: 3

Find the length of the rectangular floor if its perimeter is 60 ft and breadth is 3 ft.

Answer:



Shape of the floor is _____ and its perimeter formula is _____.

Given:

floor perimeter = _____, and breadth = _____.

Perimeter of the floor = $2(\text{_____} + \text{_____})$.

Therefore, length of the rectangular floor is _____.

Data handling

Topics to be Improved	
Chance of probability	Basis of probability
Arithmetic mean, mode and median	Mean, Median and Mode
Range	Finding the range

Hi, here in this video you will learn **Basics of probability**



Question: 4

Identify the sure events and impossible events

- (i) The sun rises in the west.
- (ii) Water is colourless.
- (iii) Clock rotates in clock wise direction.
- (iv) Ball is square in shape.

Answer:

Events that always occur are called _____ (sure/ impossible) events.

Events that cannot occur are called _____ (sure/ impossible) events.

Here, The sun rises in the west is _____ event. Water is colourless is _____ event.

Clock rotates in clock wise direction is _____ event. Ball is square in shape is _____ event.

Question: 5

Probability of sure events is _____ (greater / smaller) than probability of impossible events.

Answer:

Probability of sure event = _____ (0/ 1/ any number).

Probability of impossible event = _____ (0/ 1/ any number).

Therefore, Probability of sure event _____ Probability of impossible event.

Question: 6

Raju has pencil, an eraser, a scale, sharpener, colour pencil and protractor in his box. What is the probability of getting a pen from his box.

Answer:

Things Raju have _____

Does Raju have pen in his box, _____ (Yes/ No).

Then probability of getting pen from his box is _____ (0/1)

Hi, here in this video you will learn **Mean, Median, Mode**



Question: 7

Find the mode of the following data: 5, 15, 23, 5, 32, 44, 72, 55, 6, 3, 5, 65, 45, 67, 24, 19 and 98.

Answer:

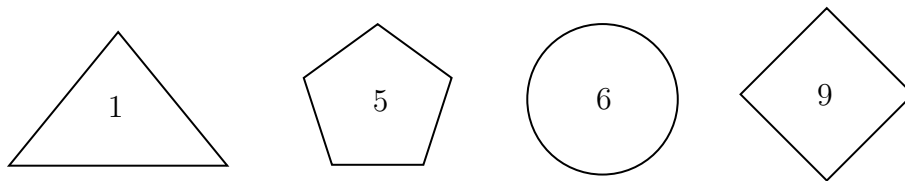
Mode is the number that occurs _____ (frequently / rarely) in a given list of observations.

Arranging the data in ascending order: _____

_____ occurs most number of times. Then, mode of the given data is _____

Question: 8

Which shape contains median of the given data 3, 5, 6, 2, 7, 9, 6, 4 and 1



Answer:

Median is the _____ (first/central/last) value of a data when the data is arranged in ascending or descending order.

Arrange the given data in ascending order : _____

Central value of the given data is _____ and it is the _____ of a data.

Question: 9

Marks scored	100	90	80	70
Number of students	4	5	2	1

Mean = _____ , Median = _____ and Mode = _____.

Answer:

Mean = $\frac{\text{sum of all observation}}{\text{number of observation}}$.

Here s sum of all observation = _____ , number of observation = _____

Therefore, mean = _____

Arrange the data in ascending order : _____
Here, median = _____ , mode = _____.

Hi, here in this video you will learn **Range**



Question: 10

Range of the data = _____ - _____

Answer:

The difference between highest value and lowest value is _____.

Example: Find the range of 10, 5, 30, 23, 54, 39 and 16

Highest value = _____ , Lowest value = _____ .

Range = _____ - _____ = _____.

Question: 11

Circle the correct range for the following data 31, -20, 35, -38, 29, 0, 43, -25, 51, 14, 9

$$-20 + 51$$

$$\frac{-38-51}{2}$$

$$51 + 38$$

$$\frac{51+20}{2}$$

Answer:

Range = _____ - _____.

Arranging the data in ascending order, _____

In the given data,

Highest value = _____ , Lowest value = _____ , Range = _____ - _____ = _____

Question: 12

Find the range of first 10 multiple of 5.

Answer:

First 10 multiple of 5 = _____

Therefore,

Highest value = _____ , Lowest value = _____ , Range = _____ - _____ = _____

Geometry

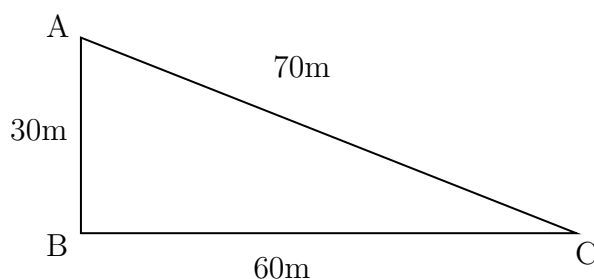
Topics to be Improved	
Sum of lengths of two sides of a triangle	Sum of two sides of a triangle
Right angle triangle and pythagoras property	Basics of Pythagoras property
Faces vertex and edges	Identification of faces, edges and vertices

Hi, here in this video you will learn **Sum of the length of sides of the triangle**



Question: 13

Find the greatest distance to reach C from A in the given diagram.



Answer:

The sides of the given triangle are _____.

The possible way to reach point C from point A are _____ and AB then to

Side AC = _____

Side AB + BC = _____ + _____ = _____

Therefore, the greatest distance to reach C from A in the given diagram is _____.

Question: 14

_____ (Sum of / Difference between) the length of any two sides of a triangle is smaller than the length of the third side.

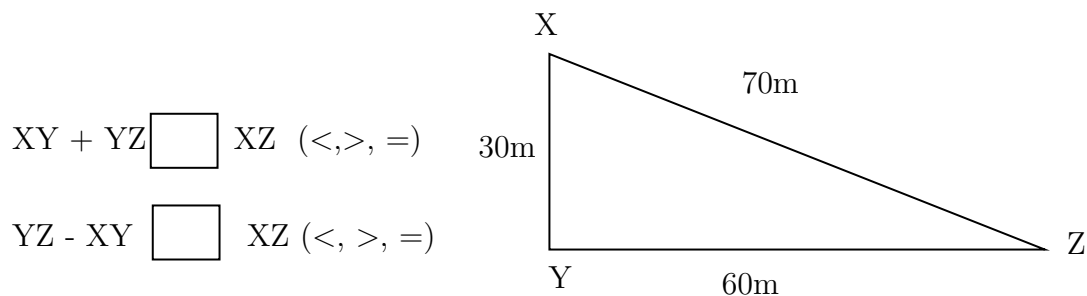
Answer:

There are _____ sides in a triangle.

The sum of the two sides of a triangle is _____ than the other side of the triangle.

The difference of the two sides of a triangle is _____ than the other side of the triangle.

Example: In triangle XYZ,



Question: 15

The lengths of two sides of a triangle are 7 cm and 10 cm. Between which two numbers can length of the third side fall?

Answer:

- The sum of the two sides of a triangle is _____ than the third side of the triangle.
Therefore, the third side should be _____(less/ greater) than sum of other two sides.
Here, sum of the two sides = _____ + _____ = _____
Therefore, the length of the third side is less than _____
- The difference of the two sides of a triangle is _____ than the third side of the triangle.
Therefore, the third side should be _____(less/ greater) than sum of other two sides.
Here, difference of the two sides = _____ - _____ = _____
Therefore, the length of the third side is greater than _____

Therefore, length of the third side is greater than _____ but less than _____.

Hi, here in this video you will learn **Pythagoras property**



Question: 16

In a right angled triangle, square of the _____ = sum of the squares of the legs.

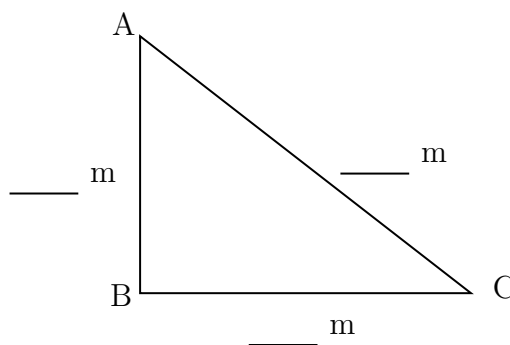
Answer:

Pythagoras theorem is only applicable for _____ triangle.
Longest side of the triangle is _____ (hypotenuse/ legs) and other two sides are called _____(hypotenuse/ legs).
Pythagoras theorem states that _____.

Question: 17

Find the hypotenuse of the triangle ABC if base is 12 m and altitude is 5 m.

Answer:



Pythagoras theorem states that square of the _____ = sum of the squares of its _____.

Given: Base = _____, Altitude = _____,

Base and altitude are _____ (hypotenuse/ legs) of the triangle.

$$\text{By Pythagoras theorem, } (\underline{\hspace{2cm}})^2 = (\underline{\hspace{2cm}})^2 + (\underline{\hspace{2cm}})^2$$

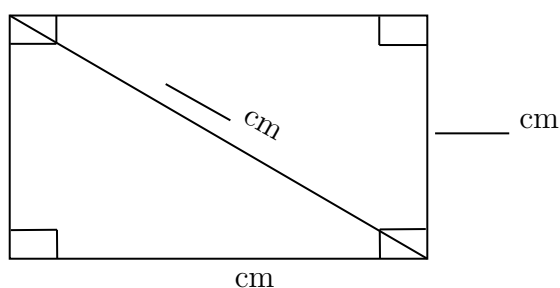
$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

Therefore, hypotenuse of the triangle is _____.

Question: 18

Find the length of the rectangle, if breadth is 3 cm and diagonal is 5 cm.

Answer:



Pythagoras theorem states that square on the _____ = sum of the squares on _____.

Is Pythagoras theorem applicable in rectangle? ____ (yes/ no).

Given: breadth = _____, length of diagonal = _____

$$\text{By Pythagoras theorem, } (\underline{\hspace{2cm}})^2 = (\underline{\hspace{2cm}})^2 + (\underline{\hspace{2cm}})^2$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

Therefore, diagonal of the rectangle is _____

Hi, here in this video you will learn **Basics of 3D model**



Question: 19

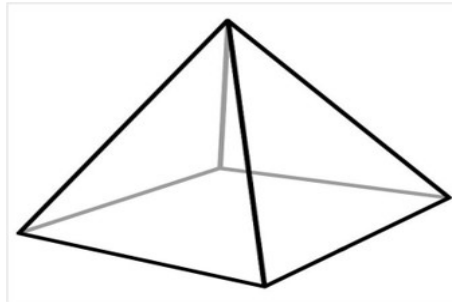
A point at which two or more lines segments meet is called _____(Vertex/ edges/ faces).

Answer:

_____ has two end point (line/line segment/ray).

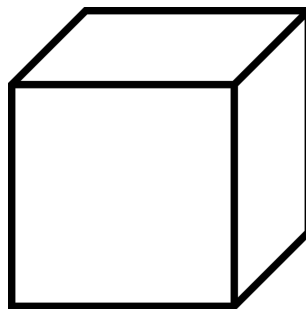
A _____ is a point where two or more line segments meet(Vertex/ edges/ faces).

Mark the vertices in the diagram,



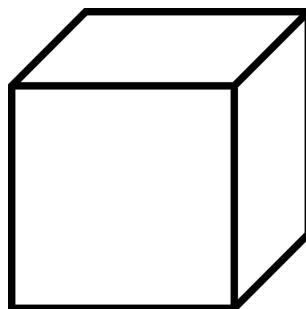
Question: 20

Mark and find the number of vertices, edges and faces in a cube.



Answer:

Mark the vertex, edges and faces in a cube.



Count the number of vertex, edges and faces in a cube.

Cube have _____ vertices, _____ edges and _____ faces.

Question: 21

How many vertices, edges and faces does dices have?



Answer:

The shape of dice is _____.

Dices have _____ vertices, _____ edges and _____ faces.

Number system

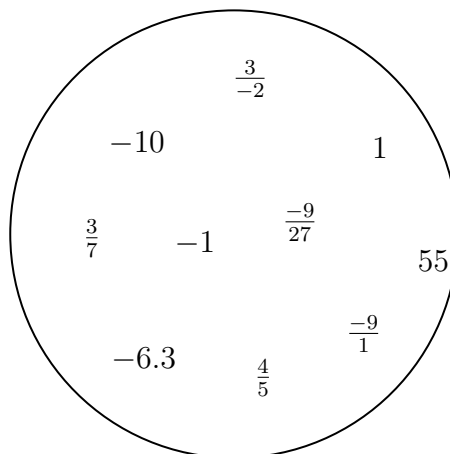
Topics to be Improved	
Positive and negative rational numbers	Identification of positive rational numbers
Decimals	Multiplication and division of decimals
Operations on rational numbers	Subtraction of rational numbers

Hi, here in this video you will learn **Positive and Negative rational numbers**



Question: 22

Segregate positive and negative rational number.



Answer:

- If both the numerator and the denominator of a rational number are _____ (positive/negative), then it is positive rational number.
- If either the numerator and the denominator of a rational number are negative, then it is _____ (positive/negative) rational number.

In the given circle, positive rational numbers are _____ and negative rational numbers are _____.

Question: 23

$-\frac{3}{-4}$ is a _____ (positive /negative / neither positive nor negative) rational number.

Answer:

-3 is a _____ number, -4 is a _____ number.

Division of $\frac{-3}{-4} = \frac{\boxed{}}{\boxed{}}$ and this _____ rational number.

(Positive / Negative / Neither positive nor negative rational number)

Question: 24

The product of a positive rational number and a negative rational number is _____ rational number. (Positive/ Negative/ neither positive nor negative)

Answer:

Examples for positive rational numbers: _____

Examples for negative rational numbers: _____

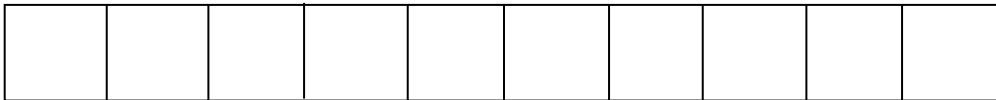
Positive rational number \times Negative rational number = _____ \times _____ = _____ and this is _____ rational number

Hi, here in this video you will learn **Basics of decimals**



Question: 25

Shade 0.4 part of the given shape.



Answer:

There are _____ boxes.

0.4 can be expressed as _____ in fraction

This fraction represents _____ parts out of _____ equal parts.

So, we need to shade _____ boxes out of _____ boxes.

Question: 26

Solve the following.

(i) 0.4×1.2

(ii) 0.48×1.2

Answer:

(i) 0.4×1.2 :

Multiplication of 0.4×1.2 assuming there is no decimal point is _____.

The number of digits after decimal point in 0.4 is _____ and 1.2 is _____.

Total digits after decimal point in the product of two numbers is _____.

Count that digits from the right towards left and place the decimal point, the result is _____.

- (ii) 0.48×1.2 :
 Multiplication of 0.48×1.2 assuming there is no decimal point is _____.
 The number of digits after decimal point in 0.48 is _____ and 1.2 is _____.
 Total digits after decimal point in the product of two numbers is _____.
 Count that digits from the right towards left and place the decimal point, the result is _____.

Question: 27

One box of chocolate costs Rs.20.10. What is the cost of 15 chocolates, if a box contains 10 chocolates?

Answer:

One box contains _____ chocolates. The cost of one box is _____
 Then cost of one chocolate = _____ \div _____ = _____

- (i) Total digits after decimal point in decimal number = _____
 (ii) Divide the two numbers assuming there is no decimal point.

$$\frac{2010}{15} = \underline{\hspace{2cm}}$$

- (iii) Place the decimal point after _____ digits counting from the right in the quotient after division.

Then the cost of one chocolate is _____ .

The cost of 15 chocolates = cost of one chocolate \times _____ = _____ \times _____ = _____

Hi, here in this video you will learn **Operation on rational numbers**



Question: 28

Solve: $\frac{-3}{3} + \frac{1}{3}$

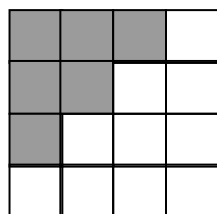
Answer:

Fractions with same denominators are called _____ (like/ unlike) fractions.
 Fraction can be added only if they are _____ (like/ unlike) fractions.

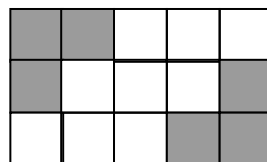
$$\frac{-3}{3} + \frac{1}{3} = \frac{\hspace{1cm}}{3} = \hspace{1cm}$$

Question: 29

Find the addition of shaded part of box A and shaded part of box B.



A



B

Answer:

Total number of square in box A = _____.

Number of shaded square in box A = _____

Shaded part of box A in fraction = _____

Total number of square in box B = _____.

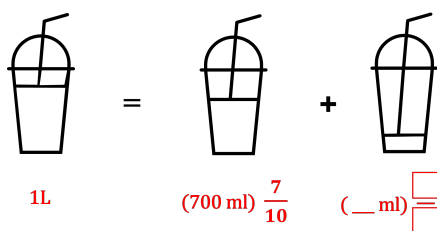
Number of shaded square in box B = _____.

Shaded part of box B in fraction = _____.

Shaded part of box A + Shaded part of box B = _____ + _____ = _____

Question: 30

Find the missing values in the given figure.



Answer:

One litre = _____ ml

$\frac{7}{10}$ of one liter = $\frac{7}{10} \times \text{--- ml} = \text{--- ml}$

Given: $1 = \frac{7}{10} + \text{---}$

Transposing $\frac{7}{10}$ to other sides, $1 - \frac{7}{10} = \text{---}$

Therefore, result is _____.

Comparing Quantities

Topics to be Improved

Equivalent ratios

Basic of proportion

Hi, here in this video you will learn **Basics of proportion**



Question: 31

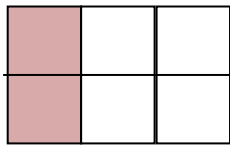
If a:b and c:d are equivalent ratio, then it can be expressed as _____

Answer:

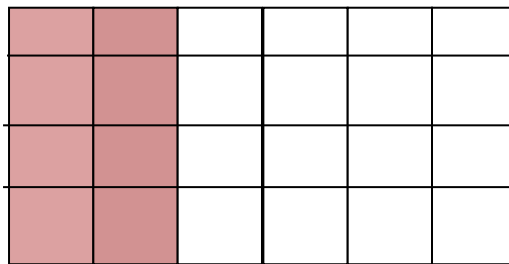
A _____ (proportion / ratio) is used to express _____ (one/two) equivalent ratios.
Standard form to express proportion is _____.

Question: 32

Find the ratio of shaded part to unshaded part of A and B. Are the two ratios equivalent ?



A



B

Answer:

Shaded part of A = _____, Unshaded part of A = _____.
Ratio of shaded to unshaded parts of A is _____. Fractional form = _____.
Shaded part of B = _____ ,
Unshaded part of B = _____.
Ratio of shaded to unshaded parts of B is _____.
Fractional form = _____.
Fraction form of A _____ (equal/ not equal) to Fraction form of B.

Question: 33

If a : b :: c : d is proportion, shade the correct expression

$$a = \frac{bc}{d}$$

$$c = \frac{ad}{b}$$

$$ad=cd$$

Answer:

Two equivalent ratio which are proportion, it can be written as $a : b :: c : d$
or _____ = _____ (in fraction) .

First and fourth term are called _____ and second and third term are called _____.

In proportion, product of extreme terms is _____ (equal to/ not equal to) product of middle terms.

Therefore, $a \times d =$ _____,

then $a =$ _____ and $c =$ _____