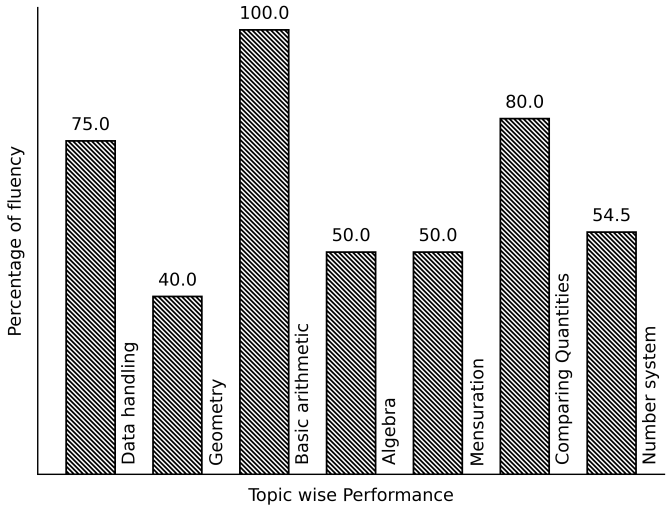
LaPIS Diagnostic Test Workbook - Mathematics

Name	**:**	**Sachin S**
Class	**:**	**7**
Section	**:**	**C**
School	**:**	**AKV Public School**
Login ID	**:**	**AKV179**

Sachin S's Performance Report



Score: 23/40 **Percentage: 57.5%**

Sachin S's Study Planner

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

Teacher's Feedback to Student

Class Teacher Signature

Principal Signature

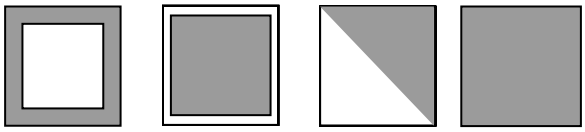
Mensuration

Topics to be Improved	
Area	Area of rectangle

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

Question: 1 .....

Find which of the shaded portion in the given shape represent it's area.



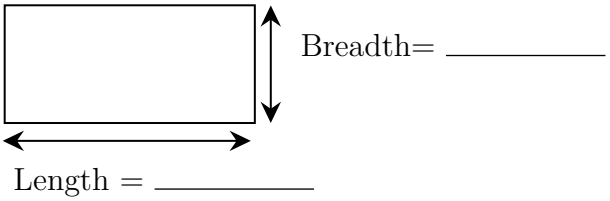
Answer:

Given figure is _____ in shape.
Area is the _____ (inside/ outside/ boundary) of a shape.

Question: 2 .....

Find the area of a rectangular garden whose dimension is 25 ft in length and 20 ft in breadth.

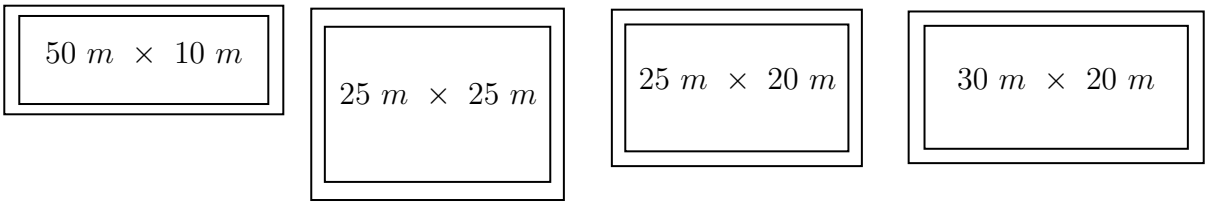
Answer:



The garden is in _____ shape.
Length of garden is _____ and breadth of garden is _____.
Formula for area of the shape = _____.
The area of garden = _____ x _____ = _____ cm^2

Question: 3 .....

Shade the possible dimension of the door whose area is 500 m^2



Answer:

Door is _____ in shape. Area of the _____ shaped door is _____.

Dimensions	Length	Breadth	Area
50m × 10m			
25m × 25m			
25m × 20m			
30m × 20m			

Therefore, possible dimension of the door whose area is 500 m^2 is/are _____

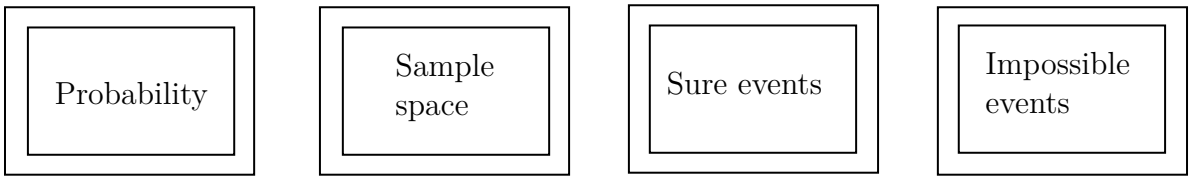
Data handling

Topics to be Improved	
Chance of probability	Sample space in probability

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

Question: 4 .....

Which of the following contains list of all possible outcomes.

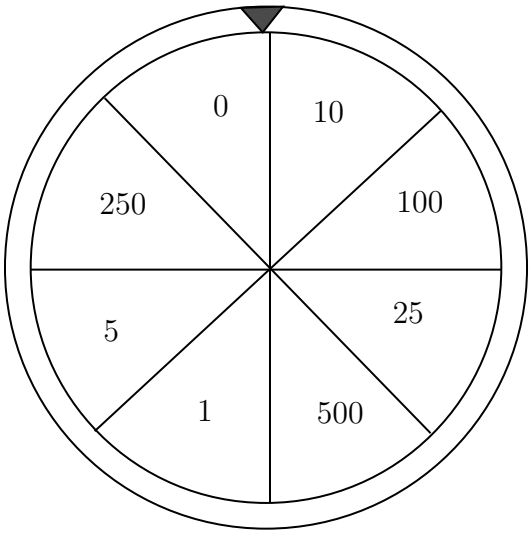


Answer:

Probability is the measure of _____ (chance /number) of an events happenings.
Sample space consists of _____ (possible/ impossible) outcomes.
Sure events always _____ (occurs/don't occurs).
Impossible events _____ (occurs/ don't occurs).
Therefore, _____ contains list of possible outcomes.

Question: 5 .....

Write the possible outcomes while spinning the given wheel.



Answer:

Outcomes are _____ (possible/impossible) results of an experiment.
The possible outcomes while spinning wheel are ₹0, ₹10, _____

Question: 6 .....

A bag contains three balss of colour blue, green and red. Write the possible outcomes if two balls are taken out.

Answer:

A bag contains _____, _____ and _____ balls.
If one of the ball is blue in colour, then other ball can be _____ or _____
If one of the ball is green in colour, then other ball can be _____ or _____.
If one of the ball is red in colour, then other ball can be _____ or _____.
Therefore, if two balls are taken out then possible outcomes are blue + _____ ,
_____ + _____, _____ + _____,

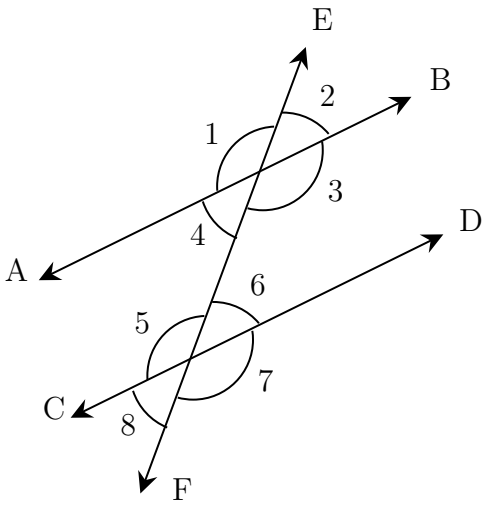
Geometry

Topics to be Improved	
Transversal angle made by transversal	Basics of Transversal angle
Right angle triangle and pythagoras property	Basics of Pythagoras property
Sum of lengths of two sides of a triangle	Sum of two sides of a triangle
Types of triangle	Basics of types of triangle (sides)
Criteria for congruence of triangle	Idenfication of criteria of congruence of triangles
Faces vertex and edges	Idenfication of faces,edges and vertices

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

Question: 7 .....

In given diagram, $\angle$ 1 and $\angle$ 7 are _____ (alternate / corresponding) angles.



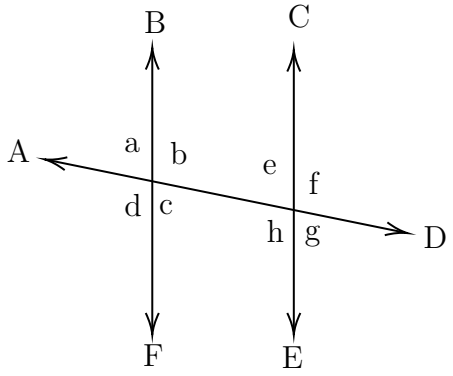
Answer:

A line that intersects two or more lines at distinct points is called a _____ (transversal/ Intersecting line).
Angle that lies on different vertices and on the opposite sides of transversal is _____ angles.
Angle that lies on different vertices and on the same sides of transversal is _____ angles.

Therefore, ∠1 and ∠7 are _____

Question: 8 .....

Find the transversal, alternate angles and corresponding angles in a given diagram.



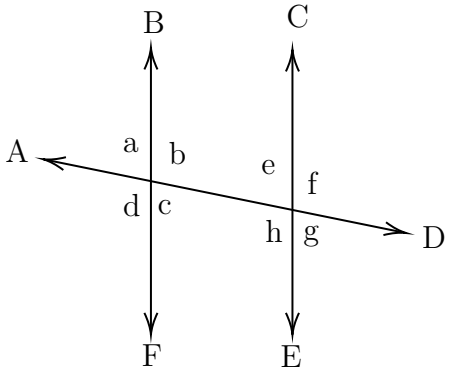
Answer:

A line that intersects two or more lines at distinct points is called a _____ (transversal/ Intersecting line).
In a given diagram, _____ is a transversal line. (BF/AD/CE)

Alternate angles	Corresponding angles
∠a and ∠g , ∠b and ∠h,	∠a and ∠e, ∠b and ∠f,

Question: 9 .....

Find ∠e and ∠g if ∠a = 30°.



Answer:

When parallel lines cut by a transversal,

(i) Alternate angles are _____ (equal / not equal).

(ii) Corresponding angles are _____ (equal / not equal).

Here, alternate angle of ∠a is _____ and its value is _____.
Corresponding angle of ∠a is _____ and its value is _____.

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

Question: 10 .....

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

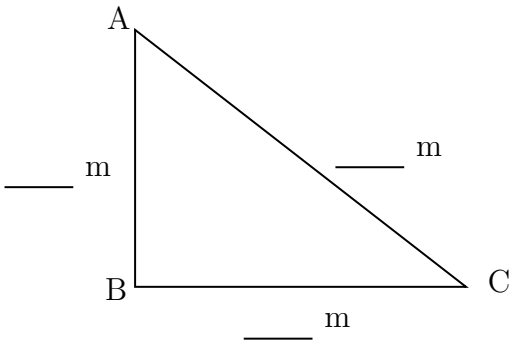
Answer:

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: 11 .....

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.

By Pythagoras theorem, $(\_\_\_\_\_)^2 = (\_\_\_\_\_)^2 + (\_\_\_\_\_)^2$

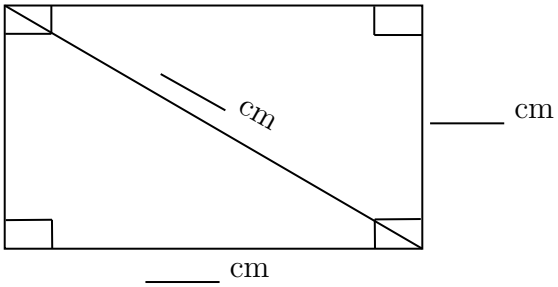
$\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_$

Therefore, hypotenuse of the triangle is _____.

Question: 12 .....

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 = _____

By Pythagoras theorem, (_____)^2 = (_____)^2 + (_____)^2

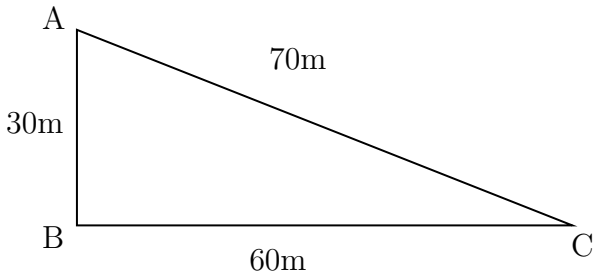
_____ = _____ + _____

Therefore, diagonal of the rectangle is _____

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.

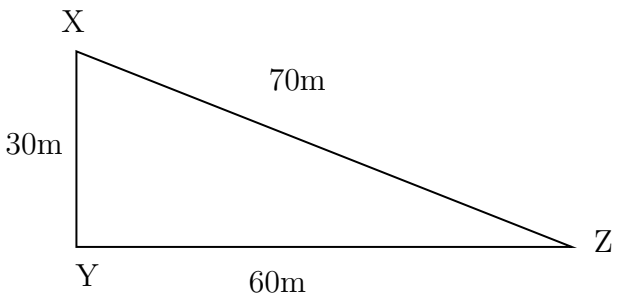
Answer:

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,

XY + YZ ☐ XZ (<,>, =)

YZ - XY ☐ XZ (<, >, =)



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:

1. 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 _____
2. 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 **Types of triangle**

Question: 16 .....

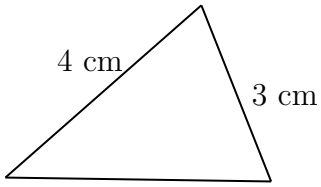
Polygon with three sides is called as _____.

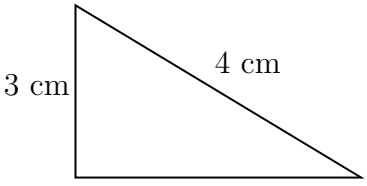
Answer:

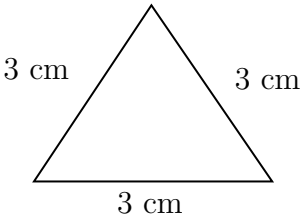
A polygon is a simple _____ (open / closed) curve made up of only line segments.
Polygon with three sides is called _____.
Draw a diagram of polygon with three sides :

Question: 17 .....

Identify the types of triangles.







Answer:

Triangle has _____ sides.

- Triangle with all sides are equal is called _____ triangle.
- Triangle with two sides of equal length is called _____ triangle.
- Triangle with three sides of different length is called _____ triangle.

Question: 18 .....

A park is in the shape of an isosceles triangle. If side length of the park is 30ft and 60ft. then the possible length of third side of park can be _____.

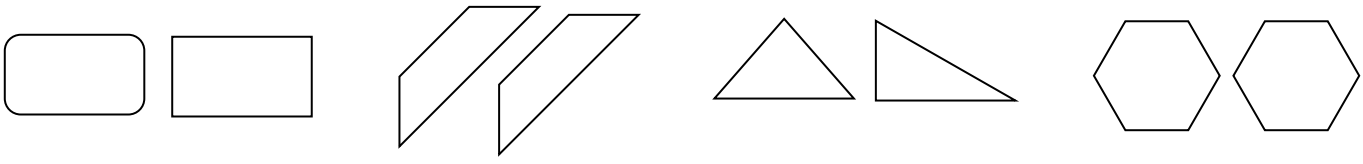
Answer:

The shape of the park is _____ .
The shapes has _____ sides and this shape has _____ sides of equal length.
Given: length of sides of park is _____.
The possible length of third side is _____.

Hi, here in this video you will learn **Criteria of congruence**

Question: 19 .....

Circle the groups that contain congruent images.



Answer:

Two geometrical shapes are said to be congruent if they are _____ (identical/non-identical) in shapes and size.
Example: Square and Rectangle are _____ (congruent/not congruent).

Question: 20 .....

If the three sides of the triangle are equal to the corresponding sides of the other triangle, then two triangles are congruent under _____ (SSS/ASA/SAS) criteria .

Answer:

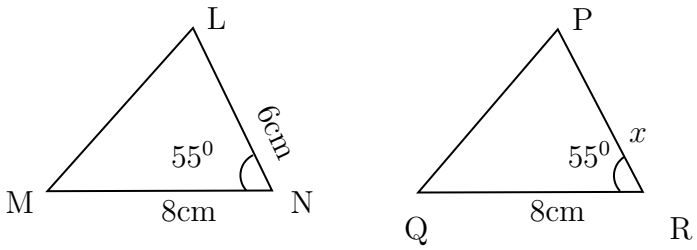
Two triangle are _____ (congruent/not congruent) if they are identical in shapes and size. Criteria for congruence of triangles are SSS, _____ and _____.

1. In SSS Congruence criteria - ___ (2/ 3/ 5) sides of the triangle are _____ (equal/ not equal) to the three corresponding sides of the other triangle.
2. In SAS Congruence criteria - ___(2/ 3/ 5) sides and _____ (one/two) angle between them are equal to the corresponding sides and the included angle of the other triangle.
3. In ASA Congruence criteria - ___ (2/ 3/ 5) angles and _____ (one/two) side between them are equal to the corresponding angles and the included side of the other triangle.

SSS	_____ sides and _____ angles are equal
SAS	_____ sides and _____ angles are equal
ASA	_____ sides and _____ angles are equal

Question: 21 .....

The triangles LNM and PRQ are congruent by SAS criteria. Then find the side PR



Answer:

The given two triangles satisfy _____ criteria of congruence.
By SAS congruence criteria, MN = _____ , _____ and $\angle N$ = _____
The side MN=8 cm in ΔLNM is equal to the side _____ in $\triangle PRQ$
The common included angle in $\triangle$ LNM and $\triangle PRQ$ are _____
The side PR is equal to the side in _____ ΔLNM.
Therefore, length of side PR = _____

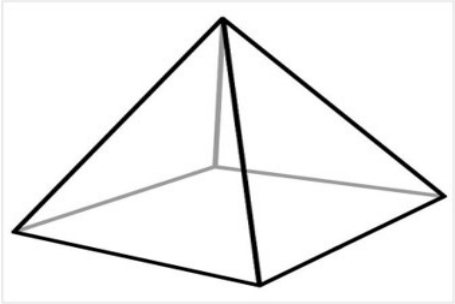
Hi, here in this video you will learn **Basics of 3D model**

Question: 22 .....

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

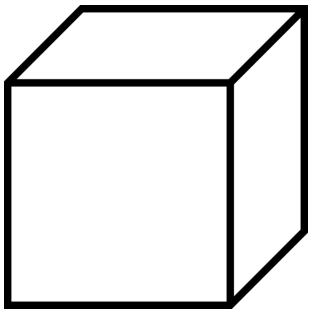
Answer:

_____ 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,



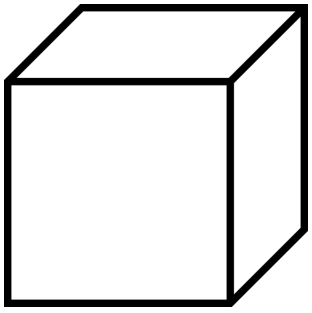
Question: 23 .....

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: 24 .....

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	
Decimals	Multiplication and division of decimals
Fractions	Multiplication of fractions, Division of fraction
Operations on rational numbers	Subtraction of rational numbers
Positive and negative rational numbers	Identification of positive rational numbers

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 = _____ ÷ _____= _____

(i) Total digits after decimal point in decimal number = _____

(ii) Divide the two numbers assuming there is no decimal point.

$$\frac{2010}{15} = \text{\_\_\_\_\_}$$

(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 × _____ = _____ x _____ = _____

Hi, here in this video you will learn **Multiplication on fractions**

Question: 28 .....

Fill the boxes

$$2 + 4 + \frac{6}{2} = \frac{2}{\square} + \frac{4}{\square} + \frac{3}{\square} = \frac{\square}{\square} = 9$$

Answer:

The whole number can be expressed in fraction with denominator equal to _____ (zero/one).
Therefore, 2 can be written as _____ in fraction.
4 can be written as _____ in fraction.

$$2 + 4 + \frac{6}{2} = \frac{2}{1} + \frac{4}{\square} + \text{\_\_} = \frac{2}{1} + \frac{4}{\square} + \frac{3}{\square} = \frac{\square}{\square} = 9$$

Question: 29 .....

There are 400 students in a school. Find the number of girls, if three sixteenth of the students are girls.

Answer:

Total number of students = _____
Fraction of students who are girls = _____

Number of girls = $\frac{\square}{\square}$ × _____ = _____

Question: 30 .....

Solve : $2\frac{7}{4} \times \frac{2}{3}$

Answer:

$2\frac{7}{4}$ is a _____ (proper / mixed) fraction.
Here, 2 is _____, 7 is _____ and 4 is _____.

To convert mixed fraction into improper fraction, $\frac{(\text{ Whole} \times \_\_\_\_\_)+Numerator}{Denominator}$
Improper fraction of $2\frac{7}{4}$ = _____

$$2\ \frac{7}{4}\ \times \frac{2}{3} = \frac{\square}{\square}\ \times \frac{2}{3} = \frac{\square}{\square}$$

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

Question: 31 .....

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

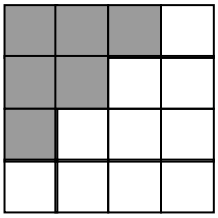
Answer:

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

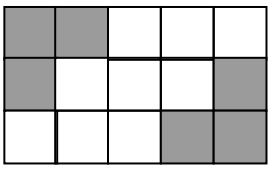
$$\frac{-3}{3} + \frac{1}{3} = \frac{\quad}{3} =$$

Question: 32 .....

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



A



B

Answer:

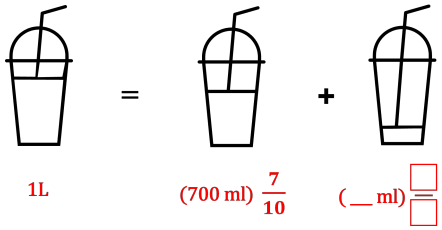
Total number of square in box A = _____.
Number of shaded square in box A = _____
Shaded part of box A in fraction = _____

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: 33 .....

Find the missing values in the given figure.



Answer:

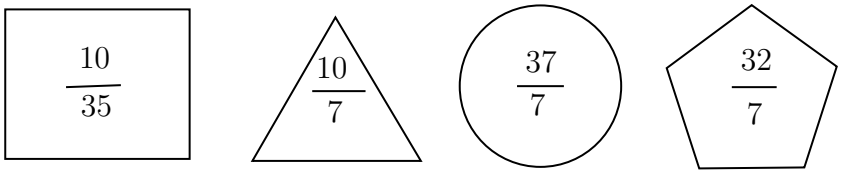
One litre = _____ ml
$\frac{7}{10}$ of one liter = $\frac{7}{10}$ x ___ ml = ___ ml

Given: $1 = \frac{7}{10} + $ ___
Transposing $\frac{7}{10}$ to other sides, $1 - \frac{7}{10} =$ _____
Therefore, result is _____.

Hi, here in this video you will learn **Division on fractions**

Question: 34 .....

Find the shape which contains the improper fraction of $5\frac{2}{7}$.



Answer:

$5\frac{2}{7}$ is a _____ (proper/mixed) fraction.
Here, 5 is _____ , 2 is _____ and 7 is _____.

To convert mixed fraction into improper fraction, $\frac{(\text{ Whole} \times \_\_\_\_\_)+Numerator}{Denominator}$

$$5\ \frac{2}{7} = \frac{(\ \_\_\_\ \times\ \_\_\_\ )+\_\_\_\_\_}{7} = \frac{\square}{\square}$$

Question: 35 .....

Solve: $\frac{1}{3} \div \frac{14}{3}$

Answer:

To divide a fraction by another fraction, multiply the dividend by _____ (same / reciprocal) of the divisor. Here, dividend = _____ and divisor = _____.

$$\frac{1}{3} \div \frac{14}{3} = \frac{1}{3} \times \frac{\square}{\square} = \frac{\square}{\square}$$

Question: 36 .....

Find the half of the fraction $\frac{12}{40}$.

Answer:

To find half of a number, divide the number by _____

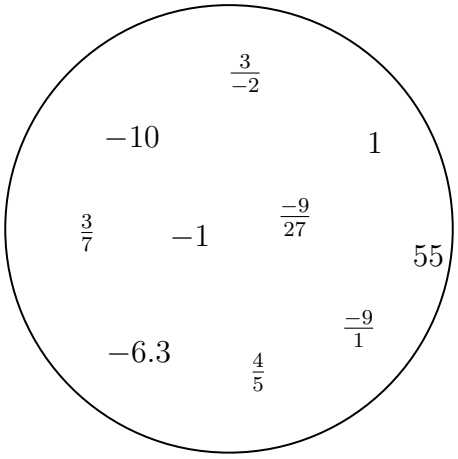
$$\frac{12}{40} \div \_\_\_\_ = \frac{12}{40} \times \frac{\square}{\square} = \frac{\square}{\square}$$

Then the answer is _____

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

Question: 37 .....

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: 38 .....

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

Answer:

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

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

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

Question: 39 .....

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

Comparing Quantities

Topics to be Improved	
Conversion of fraction into percentage	Conversion of fraction into percentage

Hi, here in this video you will learn **Converting fraction into percentage**

Question: 40 .....

Complete the box in the given equation.

$$5\% = \frac{5}{\square}$$

Answer:

Percentage are the fraction with the denominator _____.

Therefore, 5% can be expressed as _____

Question: 41 .....

Mark the correct conversion form of fraction $\frac{1}{2}$ to percentage.

(i) $\frac{1}{2} \times \frac{50}{50} = \frac{50}{100} = 50\%$

(ii) $\frac{1}{2} \times \frac{100}{100} = \frac{100}{200} = 200\%$

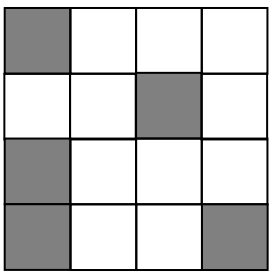
(iii) $\frac{1}{2} \times 100 = \frac{100}{2} = 50\%$

Answer:

To convert fraction into percentage, the value of _____ (denominator / numerator)should be 100 or _____ (multiply / divide) the fraction with 100 %.
Therefore, correct conversion form is _____

Question: 42 .....

Find the percentage of shaded part of square.



Answer:

The square shape is divided into _____ parts.
Number of shaded part of square is _____.

Shaded part of square in fraction is $\frac{\square}{\square}$

To Convert $\frac{\square}{\square}$ into percentage , $\frac{\square}{\square}$ x 100

Algebra

Topics to be Improved	
subtraction of algebraic expressions	subtraction of algebraic expressions
Monomials, binomials, trinomials and polynomials	Types of algebraic expression
Basics of simple equation	Solving of simple equation

Hi, here in this video you will learn **Subtraction on expression**

Question: 43 .....

Find the sum of two expressions a + b + c and b + c + d

Answer:

The given two expressions are _____ and _____.
The two terms will get added only if they are _____(Like/ Unlike) terms.
The sum of two expressions = _____ + _____.
The answer is _____

Question: 44 .....

	School A	School B
Number of boys	100b	250b
Number of girls	150g	200g
Number of teachers	25t	45t

(i) Total number of boys in school A and B is _____

(ii) Total number of students in school B is _____

(iii) How many more teachers are there in school B than school A ? _____

Answer:

(i) Number of boys in school A = _____,
Number of boys in school B = _____.
Total number of boys in school A and school B is _____ + _____ = _____.

(ii) Number of boys in school B = _____,
Number of girls in school B = _____.
Total number of students in school B is _____ + _____ = _____.

(iii) Number of teachers more in school B than school A = Teachers in school B − Teachers in school A = _____.

Question: 45 .....

Solve the following:

	$13x + \_\_\_$			$3a - 5b$
(+)	$12x + 10y$		(-)	$5a - 7b$
	$\_\_\_ + 25y$			$-2a - \_\_\_$

Answer:

The two terms will get added only if they are _____ (like/unlike) terms.

	$13x + \_\_\_$			$3a - 5b$
(+)	$12x + 10y$		(-)	$5a - 7b$
	$\_\_\_ + 25y$			$-2a - \_\_\_$

Hi, here in this video you will learn **Types of expression**

Question: 46 .....

There are _____ terms in the expression $7x + 3y + m + 5$.

Answer:

In algebraic expression, _____ (variables/ terms) are connected together with operations of addition.
The terms in the expression are _____ , _____ , _____ , and _____ .
Therefore, there are _____ terms in the expression.

Question: 47 .....

Classify the following expression into monomial, binomial and polynomial.

1. $7m + n + 2$
2. $8x^2 + 0$
3. $7xy + 4m$

Answer:

1. The terms in expression $8x^2 + 0$ are _____.
   Here, expression has _____ term and it is a _____
2. The terms in expression $7xy + 4m$ are _____.
   Here, expression has _____ term and it is a _____.
3. The terms in expression $7m + n + 2$ are _____.
   Here, expression has ____ term and it is a _____.

Question: 48 .....

$5m^2 + m + 0$ is a _____ expression. (Monomial/ Binomial/ Trinomial)

Answer:

The terms in expression $5m^2 + m + 0$ are _____.
Here, the expression has _____ terms and it is called a _____ expression.

Hi, here in this video you will learn **Solving an equation**

Question: 49 .....

If ☺= 5, then 5 ☺ +5 = _____

Answer:

The value of the given smiley ☺ is _____.
Substituting the value in the expression = 5(___) + 5 = _____ + _____ = _____.

Question: 50 .....

Which of the following number can be placed in the box to make the equation correct (-2, -1, 0, 1, 2)
$7 \square + 3 = -4$

Answer:

The given equation is 7___ +3 =-4 Substitute the values (-2, -1, 0, 1, 2) in the circle,
7× ___+3= ___
7× ___+3 = ___
7× ___+3 = ___
7× ___+3 = ___
7× ___+3 = ___
Therefore, _____ is the number that can be placed in a box to make the equation correct.

Question: 51 .....

Arrange the terms in the descending order when the value of x is 2.
$2x \qquad 5x \times 1 \qquad x + 3 \qquad 2x - 4 \qquad \frac{1}{2}x$

Answer:

The given expression are _____.
The value of x is _____.
substituting value of x

$2x = 2\times$ _____ = _____

$2x - 4 = 2\times$ _____ - 4 = _____

$x + 3 =$ _____ = _____

$\frac{1}{2}x = \frac{1}{2} \times$ ___ = _____

$5x \times 1 = 5 \times$ _____ $\times 1 =$ _____

Arranging in descending order: ___, ___, ___, ___, ___.
Their respective algebraic terms are ___, ___, ___, ___, ___.