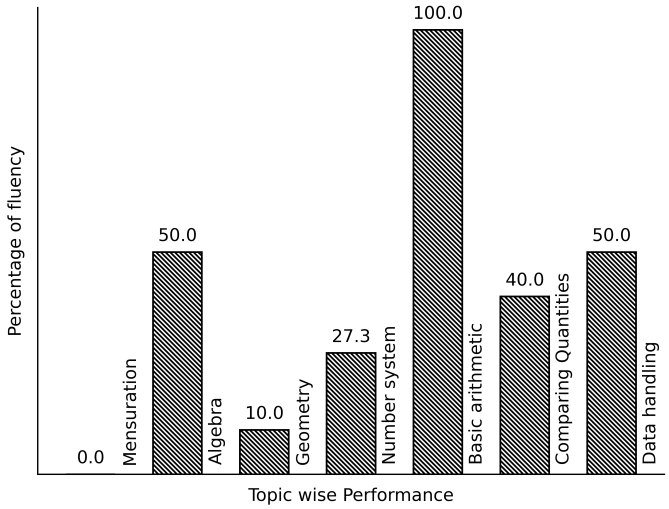
LaPIS Diagnostic Test Workbook - Mathematics

Name	**:**	**Yogarajan N**
Class	**:**	**7**
Section	**:**	**C**
School	**:**	**AKV Public School**
Login ID	**:**	**AKV185**

Yogarajan N's Performance Report



Score: 13/40 **Percentage: 32.5%**

Yogarajan N's Study Planner

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

Teacher's Feedback to Student

Class Teacher Signature

Principal Signature

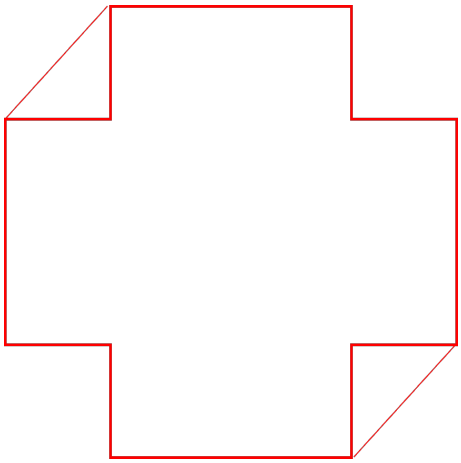
Mensuration

Topics to be Improved	
Perimeter	Perimeter of triangle
Area	Area of rectangle

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

Question: 1 .....

Highlight the perimeter in the given image.

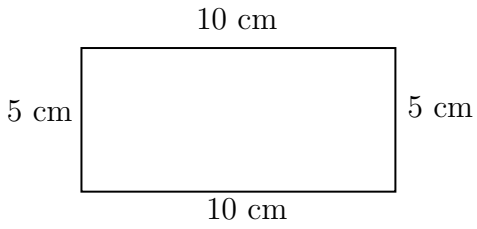


Answer:

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

Question: 2 .....

Find the perimeter of the given figure.



Answer:

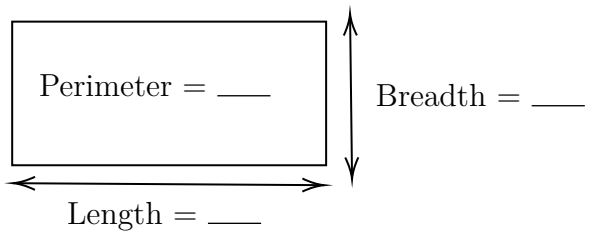
Sides of the given shape = _____.
Perimeter of a shape is _____ (sum / difference) of _____ (all/ opposite) sides.

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 = _____.

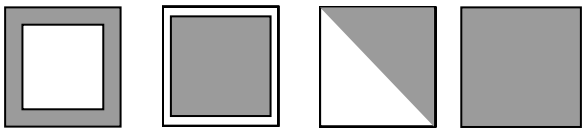
Perimeter of the floor = 2(_____ + _____).

Therefore, length of the rectangular floor is _____.

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

Question: 4 .....

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



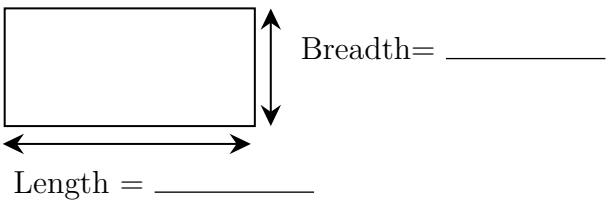
Answer:

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

Question: 5 .....

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

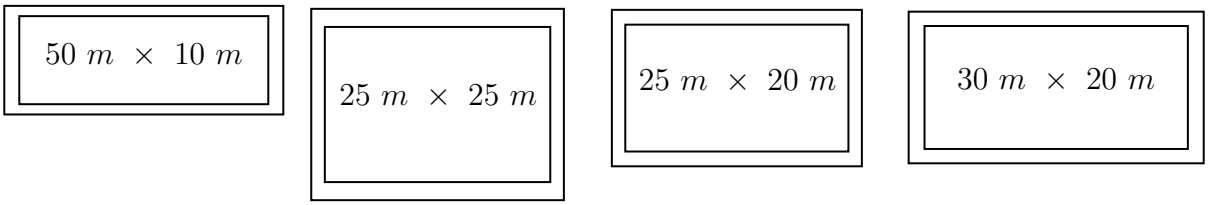
Answer:



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: 6 .....

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	
Arithmetic mean, mode and median	Mean, Median and Mode
Chance of probability	Basis of probability

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

Question: 7 .....

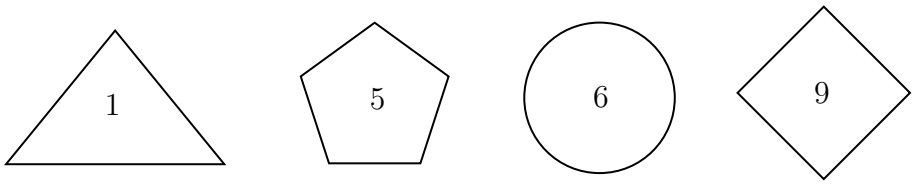
Find the mode of the following data: 5, 15, 23, 5, 32, 44, 72, 55, 6, 3, 5, 65, 45, 67, 24, 19 and 98.

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 = $\frac{\text{\_\_\_\_\_ of all observation}}{\text{number of obserivation}}$.

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 **Basics of probability**

Question: 10 .....

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: 11 .....

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: 12 .....

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)

Geometry

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

Hi, here in this video you will learn **Related Angles**

Question: 13 .....

1. Two angles are complementary if their sum is equal to _____.
2. Two angles are supplementary if their sum is equal to _____.

Answer:

1. When sum of the two angles is equal to 90°, they are called as _____ angle.
   Example : 45° and 45°, _____, and _____.
2. When sum of the two angles is equal to 180°, they are called as _____ angle.
   Example : 90° and 90°, _____, and _____.

Question: 14 .....

Shade the complementary angles.

85°, 95°	45°, 45°	6°, 84°	73°, 107°	36°, 64°	90°, 90°

Answer:

Two angles are said be complementary if the sum of their angles are equal to _____.

85°+ 95° = _____ and this is _____ (a / not a) complementary angles.
45°+ 45° = _____ and this is _____ angles.
6° + 84° = _____ and this is _____ angles.
73° + 107° = _____ and this is _____ angles.
36° + 64° = _____ and this is _____ angles.
90° + 90° = _____ and this is _____ angles.

Question: 15 .....

Find the complement and supplement of 15° and 90°

Answer:

One angle is _____ (complements / supplements) to other angle, when sum of the two angles is equal to 90°.
One angle is _____ (complements / supplements) to other angle, when sum of the two angles is equal to 180°.

Complement of 15° = _____, Complement of 90° = _____.
Supplement of 15° = _____, Supplement of 90° = _____

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

Question: 16 .....

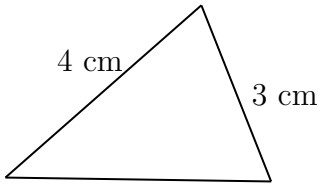
Polygon with three sides is called as _____.

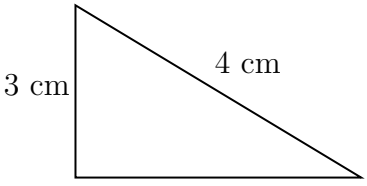
Answer:

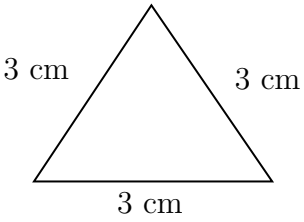
A polygon is a simple _____ (open / closed) curve made up of only line segments.
Polygon with three sides is called _____.
Draw a diagram of polygon with three sides :

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 _____.

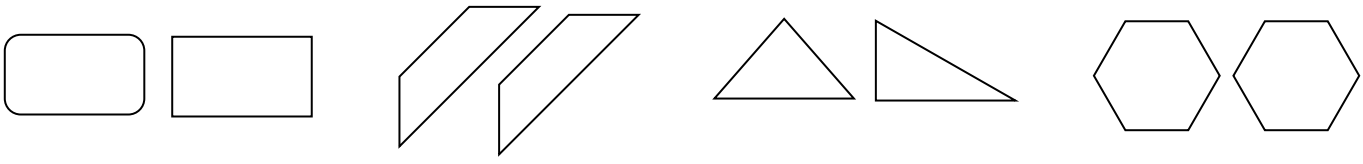
Answer:

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:

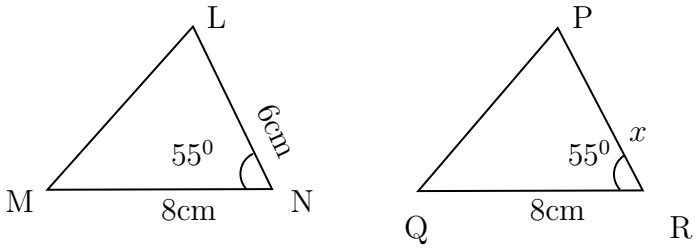
Two triangle are _____ (congruent/not congruent) if they are identical in shapes and size. Criteria for congruence of triangles are SSS, _____ and _____.

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 **Related Angles**

Question: 22 .....

(i) When two rays of an angle are perpendicular, then the angle formed between them is a _____ angle .

(ii) When two rays of an angle are in opposite sides, then the angle formed between them is a _____ angle .

Answer:

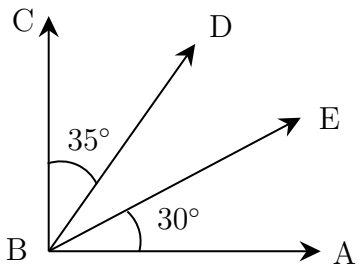
A _____ (line segment /ray) begins from one point and travels endlessly in a direction.

(i) The angle formed between two perpendicular rays is ___° and it is called _____ angle.

(ii) If two rays starting at same point moves in opposite direction, they form a _____ (straight / perpendicular) line. The measure of the angle formed is ___°and it is called _____ angles.

Question: 23 .....

Find the angle of $\angle DBE$



Answer:

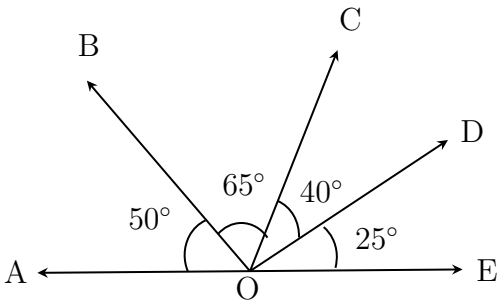
BA and BC are _____ (parallel / perpendicular) rays.
The angle formed between this rays is ___, $\angle ABC =$ ___.

$$\begin{aligned} \angle ABC &= \angle ABE + \_\_\_\_\_ + \_\_\_\_\_ \\ &= 30° + \_\_\_\_\_ + \_\_\_\_\_ \\ &= \_\_\_\_\_ \end{aligned}$$

Therefore, $\angle DBE =$ _____

Question: 24 .....

Find the complementary angles in the given diagram.



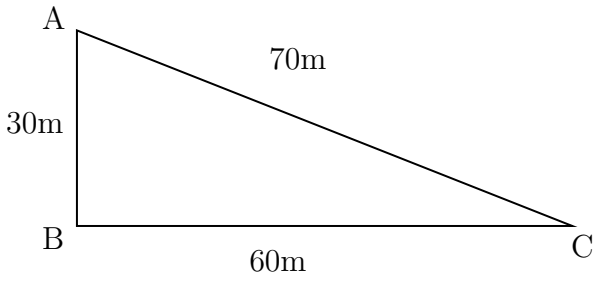
Answer:

Two angles are said be complementary if sum of their angles is equal to _____.
$\angle AOB$= _____, and its complement angle is _____.
$\angle BOC$ = _____, and its complement angle is _____.
$\angle COD$ = _____, and its complement angle is _____.
$\angle DOE$ = _____, and its complement angle is _____.
Therefore, in the given figure the complementary angles are $\angle AOB$, _____ and $\angle BOC$, _____

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

Question: 25 .....

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: 26 .....

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

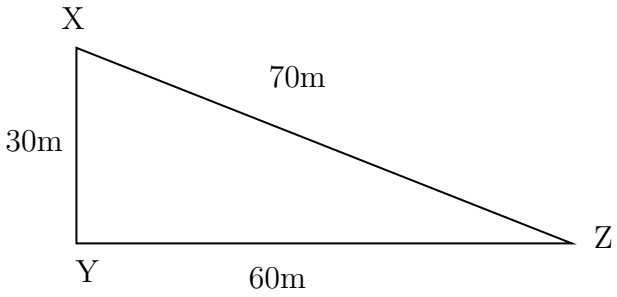
Answer:

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: 27 .....

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 _____.

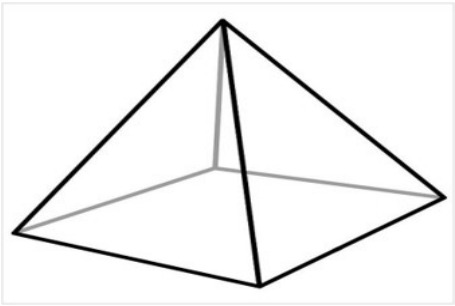
Hi, here in this video you will learn **Basics of 3D model**

Question: 28 .....

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

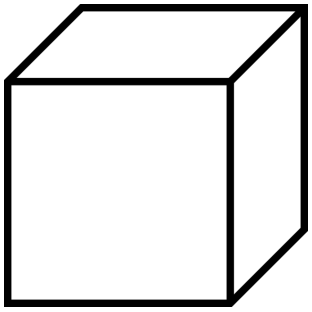
Answer:

_____ 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,



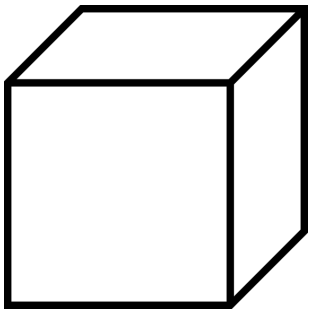
Question: 29 .....

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: 30 .....

How many vertices, edges and faces does dices have?

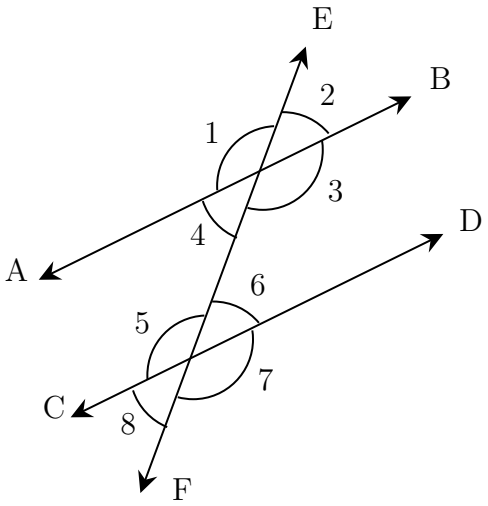
Answer:

The shape of dice is _____.
Dices have _____ vertices, _____ edges and _____ faces.

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

Question: 31 .....

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

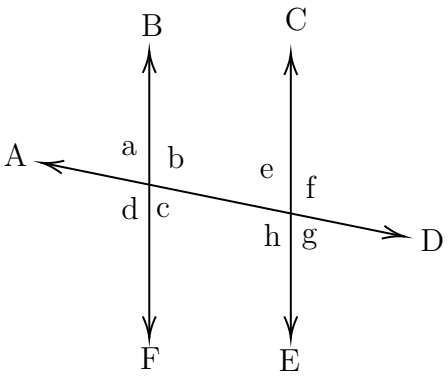


Answer:

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, $\angle$1 and $\angle$7 are _____

Question: 32 .....

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



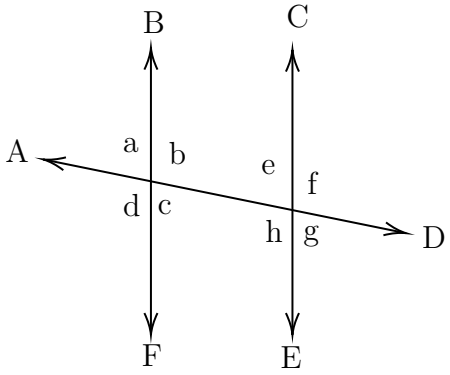
Answer:

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: 33 .....

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: 34 .....

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

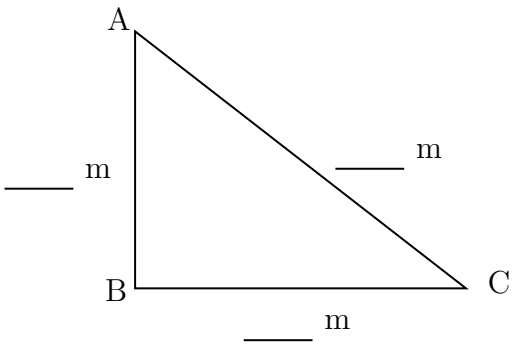
Answer:

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: 35 .....

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, $(\_\_\_\_\_)^2 = (\_\_\_\_\_)^2 + (\_\_\_\_\_)^2$

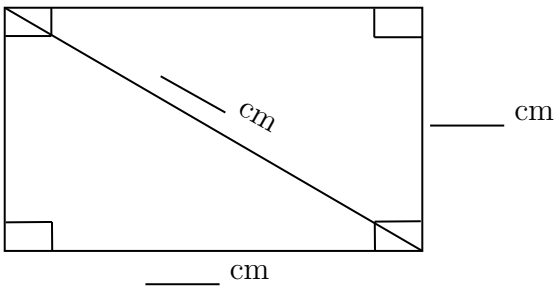
$\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_$

Therefore, hypotenuse of the triangle is _____.

Question: 36 .....

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

_____ = _____ + _____

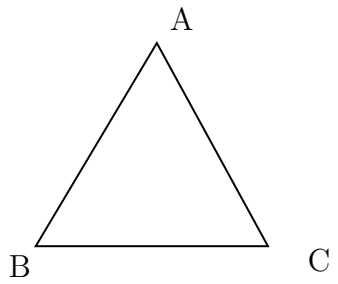
Therefore, diagonal of the rectangle is _____

Hi, here in this video you will learn **Angle sum property**

Question: 37 .....

Sum of the angles of triangle is _____.

Answer:



$\angle A + \angle B + \angle C =$ _____

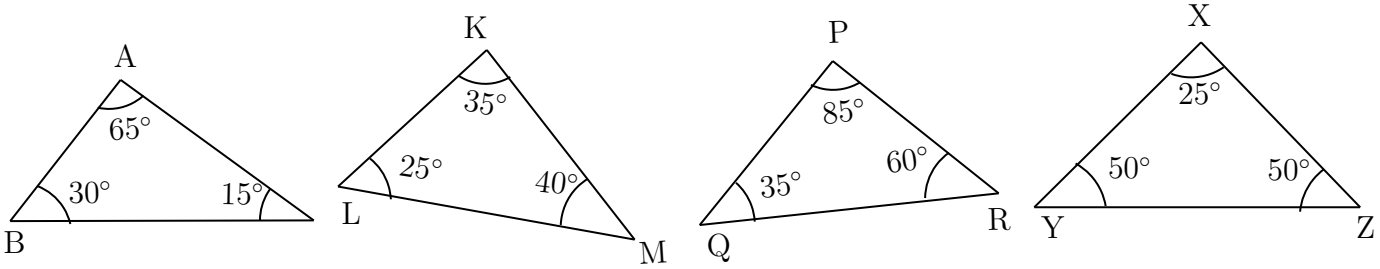
Angle sum formula $= (n-2) \times 180°, n =$ number of sides

Triangle has _____ sides.

Sum of the angles of triangle = (_____ $- 2) \times 180°$ = _____

Question: 38 .....

Which of the following triangle satisfy the angle sum property.



Answer:

Angle sum property of triangle: sum of the angles of a triangle is _____

In $\triangle ABC$, Sum of the angles $= \angle A + \angle B + \angle C =$ _____ = _____

In $\triangle PQR$, Sum of the angles = _____ = _____ = _____
In $\triangle KLM$, Sum of the angles = _____ = _____ = _____
In $\triangle XYZ$, Sum of the angles = _____ = _____ = _____
Therefore, the triangles that satisfy the angle sum property are = _____

Question: 39 .....

Find the angles of triangle, if their angles are in the ratio 8:6:4.

Answer:

Ratio of angles in the triangle is _____
Let's consider the angles of triangle be $8x$, ___ and ___
We know sum of the angles of a triangle is ___
Therefore, $8x$+ ___ + ___ = 180°. The value of x = _____
The angles of the triangle are _____

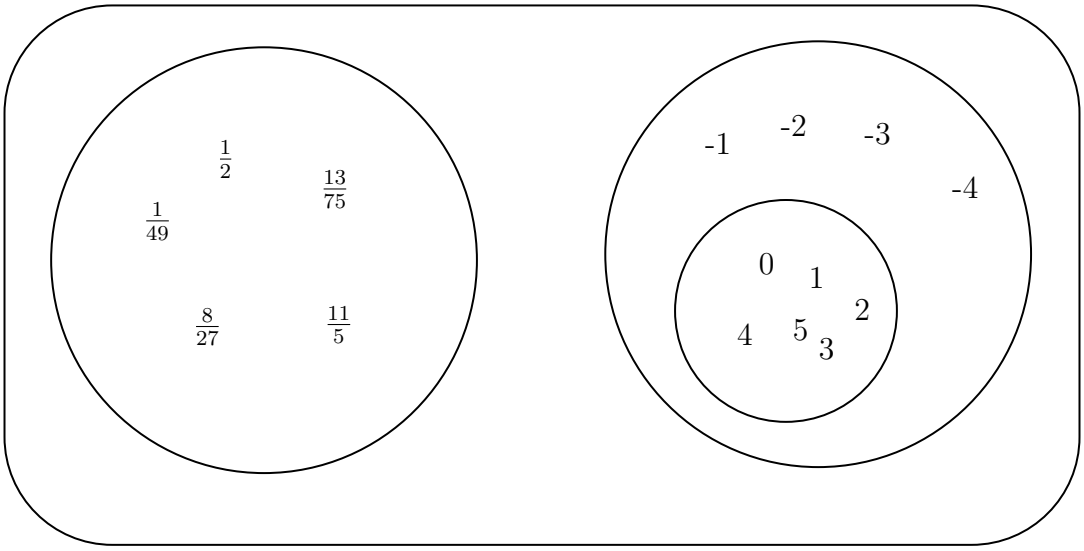
Number system

Topics to be Improved	
Introduction to rational numbers	Basics of rational numbers
Decimals	Multiplication and division of decimals
Law of Exponents	Law of Exponents
Fractions	Multiplication of fractions, Division of fraction
Properties of integers	Associative property
Exponents	Solving exponents
Operations on rational numbers	Division of rational numbers

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

Question: 40 .....

The numbers in the diagram represents_____.



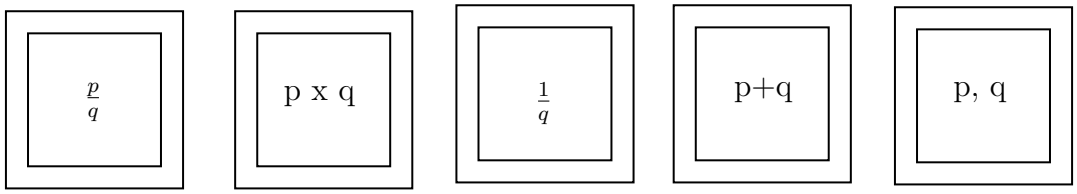
Answer:

0, 4,5,2,3,1 are _____ numbers.
-1,-2, -3, -4 are _____ numbers.
The combination of these circles are called _____.
$\frac{1}{49}$, $\frac{1}{2}$, $\frac{8}{27}$, $\frac{11}{5}$, $\frac{13}{75}$ are _____.

Combination of all three circles are called as _____ numbers.

Question: 41 .....

Shade the correct form of rational numbers.



Answer:

Rational number can be expressed as _____, where both numerator and denominator are _____ (integer/ not a integer),
denominator is equal to _____(zero/ one/ any integer other than zero).

Question: 42 .....

Circle the number which is not a rational number.

$\frac{-5}{-8}$ $\frac{-3}{2}$ $\frac{12}{-6}$ $\frac{0}{-9}$ 256 $\frac{4}{0}$

Answer:

Rational number can be expressed as _____, where both numerator and denominator are _____(integer/ not a integer),denominator is equal to _____ (zero/ one/ any integer other than zero).
Here, _____ is/are rational number and _____ is/are not a rational number.

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

Question: 43 .....

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: 44 .....

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: 45 .....

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 **Law of exponents**

Question: 46 .....

$(x)^0$ is equal to _____.

Answer:

_____ (Exponents/Base) tells us how many times a number should be multiplied by itself to get the desired result.

In $(x)^0$ base = _____
Power = _____

Any number or variable with power zero is equal to _____.
Therefore, $(x)^0$ equal to _____.

Question: 47 .....

i. $a^m \times a^n =$ _____
ii. $a^m \div a^n =$ _____

Answer:

Multiplication of two numbers with same base with different power, their exponents are _____ (added/ subtracted)
Division of two numbers with same base with different power, their exponents are _____ (added/ subtracted).

Question: 48 .....

Circle the result of the expression $(a^0 \times b^1) + (m^1 \times n^0) + (x^0 \times y^1)$

$a + n + x$ bmy 1 $ab + mn + xy$ 0 anx $b + m + y$

Answer:

Any number with power zero is equal to_____ (One/ Zero).
Any number with power one is equal to _____ (same/ different) number.

$$\begin{aligned}(a^0 \times b^1) + (m^1 \times n^0) + (x^0 \times y^1) &= (\_\_\_\_\_) + (\_\_\_\_\_Ö\_\_\_\_\_) + (\_\_\_\_\_) \\ &= \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ \\ &= \_\_\_\_\_\end{aligned}$$

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

Question: 49 .....

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.

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

Question: 50 .....

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: 51 .....

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 **Properties of integers**

Question: 52 .....

Match the following based on the properties of integers

i	Closure
ii	Associative
iii	Commutative
iv	Identity

a	$(5 + 7) + 3 = 3 + (7 + 5)$
b	$21 + 0 = 21$
c	$15 + 17 = 32$
d	$1 + 99 = 99 + 1$

Answer:

(i) Closure property :
The sum of integers is always _____(integer / not a integer).
Therefore, _____ + _____ = _____
From the given option _____ satisfies the closure property.

(ii) Associative property :
Rearranging the parentheses (brackets) _____ (does not/ does) change the sum.
Therefore, (a + b) + c = _____.
From the given option _____ satisfies the Associative property.

(iii) Commutative property :
Changing the order of the addends _____ (does not/ does) change the sum.
Therefore, a + b = _____ + _____
From the given option _____ satisfies the Commutative property.

(iv) Identity property : The sum of _____ and any number always returns same number.
Therefore, a + _____ = a
From the given option _____ satisfies the Identity property.

Question: 53 .....

Mark the operations in which commutative property holds true for any two integers.

Addition Subtraction Multiplication Division

Answer:

In commutative property, changing the _____ (order/ brackets) of the operands _____ (does not/ does) change the result.
For any two integers, commutative property holds true for _____.
The commutative property for addition is _____.
The commutative property for multiplication is _____.

Question: 54 .....

Are additive identity and multiplicative identity the same? (Yes or No)

Answer:

Identity property holds only for _____ , _____
The Identity property for addition is _____ and additive identity is _____.
The Identity property for multiplication is _____ and multiplicative identity is _____.
Therefore, additive identity is _____ (equal / not equal) to multiplicative identity.

Hi, here in this video you will learn **Exponents and power**

Question: 55 .....

Find the exponential form of 1000.

Answer:

_____ (Exponents/Base) tells us how many times a number should be multiplied by itself to get the desired result.
Exponents is also called as _____ (Base / Power).

1000 can be written as $= 10 \times$ _____ $\times$ _____
10 is raised to the power of ___ $= (10)^{\text{___}}$

Question: 56 .....

Find the value of $(-2)^3$.

Answer:

_____ (Exponents/Base) tells us how many times a number should be multiplied by itself to get the desired result.

In this exponential form $(-2)^3$, base = ___, power = ___.
$(-2)^3 =$ ___ $\times$ ___ $\times$ ___ $=$ ___.

Question: 57 .....

(i) Tenth power of 100 is ___ ($(10)^{100}$ or $(100)^{10}$).

(ii) k is raised to the power of 5 is ___ ($(k)^5$ or $(5)^k$).

Answer:

Exponential form $= (Base)^{\text{___}}$

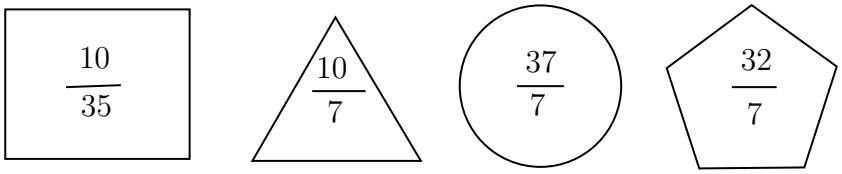
(i) Tenth power of 100 : Base = ___, Power/Exponents = ___, exponential form = ___.

(ii) k is raised to the power of 5 : Base = ___, Power/Exponent = ___,
exponential form = ___.

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

Question: 58 .....

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: 59 .....

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: 60 .....

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 **Operation on rational numbers**

Question: 61 .....

Fill in the boxes to make the given expression correct.

$$\frac{1}{5} \div \frac{14}{15} = \frac{1}{\square} \times \frac{\square}{\square}$$

Answer:

When any fraction is divided by a fraction, we multiply the dividend by the _____ (same/reciprocal) of the divisor.

Here, dividend = _____ and divisor = _____

$$\frac{1}{5} \div \frac{14}{15} = \frac{1}{\square} \times \frac{\square}{\square} = \frac{\square}{\square}$$

Question: 62 .....

Solve: $\frac{18}{7} \div 0.6$

Answer:

Fraction form of 0.6 = _____,
when any fraction is divided by a fraction, we multiply the dividend by the _____ (same/reciprocal) of the divisor. Here, dividend = _____ and divisor = _____.

$$\frac{18}{7} \div \frac{\square}{\square} = \frac{18}{7} \times \frac{\square}{\square} = \frac{\square}{\square}$$

Question: 63 .....

Find the missing number in the expression $\frac{8}{3} \div \frac{16}{\square} = 2$

Answer:

$$\frac{8}{3} \div \frac{16}{\square} = 2$$

$$\frac{8}{3} \times \frac{\square}{16} = 2$$

Transposing 8/3 to RHS,

$$\frac{\square}{16} = 2 \square \frac{8}{3}$$

$$\frac{\square}{16} = 2 \times \frac{\square}{\square}$$

$$\frac{\square}{16} = \frac{\square}{\square}$$

Transposing 16 to other side, the result is _____.

Comparing Quantities

Topics to be Improved	
Profit and loss	Prediction of loss and profit
Equivalent ratios	Basic of proportion
Conversion of fraction into percentage	Conversion of fraction into percentage

Hi, here in this video you will learn **Profit and Loss**

Question: 64 .....

Anu bought a book for ₹100 and sold it for ₹150 . Here, cost price of a book is _____ and selling price of a book is _____

Answer:

The price that is paid to buy or purchase a goods is _____ price and the price at which goods are sold is called _____ price.
Therefore, cost price of a book = _____, selling price of a book = _____.

Question: 65 .....

You bought a bat for ₹50 to play cricket. After one week, you sold that bat for ₹150. Is that a profit or loss for you?

Answer:

In profit, selling price _____ cost price. (<, >, =)
In loss, selling price _____ cost price. (<, >, =)
Cost price of a bat = _____, selling price of a bat = _____.
Cost price is _____(greater / smaller) than selling price. Then it is _____.

Question: 66 .....

Janu bought a smart phone for Rs.19,499 and after one week she sold her phone at a loss of Rs.2500 . Find the selling price of the phone.

Answer:

Cost price of a smart phone = _____ , loss = _____
Loss = _____ - _____ = _____ - _____
Therefore, selling price = _____

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

Question: 67 .....

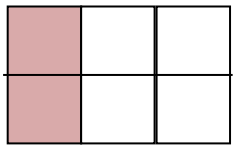
If a:b and c:d are equivalent ratio, then it can be expressed as _____

Answer:

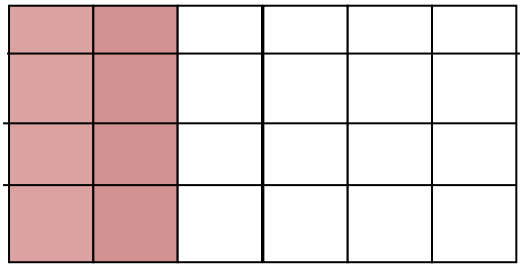
A _____ (proportion / ratio) is used to express _____ (one/two) equivalent ratios.
Standard form to express proportion is _____.

Question: 68 .....

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



A



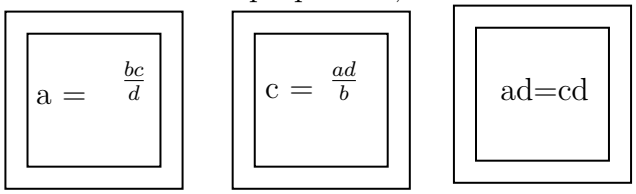
B

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: 69 .....

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



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 × d = _____,
then a = _____ and c = _____

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

Question: 70 .....

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: 71 .....

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

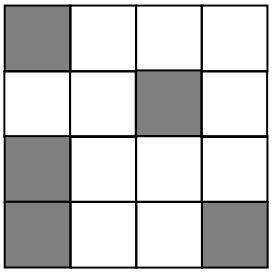
(iii) $\frac{1}{2} \times 100 = \frac{100}{2} = 50\%$

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: 72 .....

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	
Basics of simple equation	Solving of simple equation
Terms of an expression	Identification of terms in an expression
Addition and subtraction of algebraic expressions	Like terms and Unlike terms

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

Question: 73 .....

If ☺= 5, then 5 ☺ +5 = _____

Answer:

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

Question: 74 .....

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: 75 .....

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

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

$x + 3$ = _____ = _____ $\quad$ $\frac{1}{2}x = \frac{1}{2} \times$ ___ = _____

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

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

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

Question: 76 .....

Separate the variables and constants for all the terms given in the box

	$16r$		$-4mn$	
18		$54c^4$		4
	0		z^2	
$4x$	12	x		ab

Answer:

In algebraic expression, variables are represented by _____ and Constant is a _____.

Terms	Constants	Variables

Question: 77 .....

Mark the expression that contains two terms.

$3x + 5 \quad 12a \quad 4xy \quad 12a + b + 1 \quad 7m + 0$

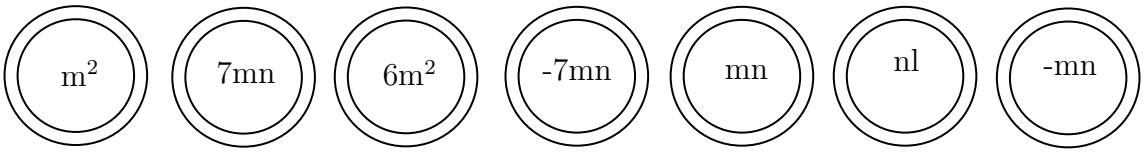
Answer:

The terms in the expression $3x + 5$ is/are _____.
The terms in the expression $12a$ is/are _____.
The terms in the expression $4xy$ is/are _____.
The terms in the expression $12a + b + 1$ is/are _____.
The terms in the expression $7m + 0$ is/are _____.

Question: 78 .....

Shade the outline of circle that contains the term of the given expression.

$6m^2 - 7mn + nl$



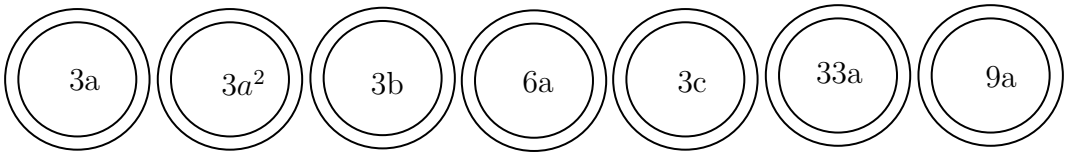
Answer:

In algebraic expression, _____ (variables/ terms) are connected together with operations of addition.
Here, _____, _____, _____ are the terms of the given expression.

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

Question: 79 .....

Shade the like terms.



Answer:

Given terms are _____.
Two or more term have _____ (same/ different) variables is called like terms.
Here, like terms are _____.

Question: 80 .....

Complete the expression $7r^2 +$ r$\square$ $-$ 2$\square$ $=$ ___r^2

Answer:

_____ (Like / Unlike) terms can be added or subtracted.

$$7r^2 + \text{r}\square - 2\square = \left(7 + \_\_\_ - 2\right) r^2 = \_\_\_\_\_$$

Question: 81 .....

Sam have 3a chocolates and 9y icecream. Ram have 7a chocolates and 5y icecream.

(i) Total chocolates Ram and Sam have : _____.

(ii) How many icecreams Sam have more than Ram : _____ .

Answer:

	Chocolates	Icecream
Sam		
Ram		

(i) Total chocolates Ram and Sam have :

Ram's chocolate + Sam's chocolates = _____ + _____ = ___

(ii) How many icecreams Sam have more than Ram :

_____ icecream - _____ icecream = _____ - _____ = _____