LaPIS Diagnostic Test Workbook - Mathematics

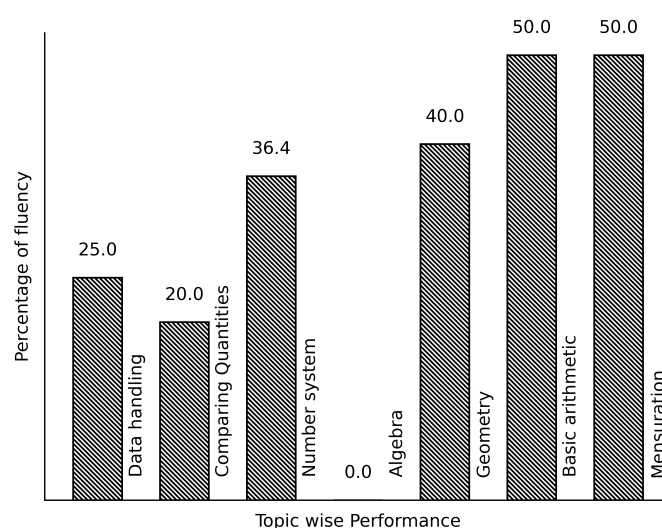|		
Name	:	**Mukesh A V**
Class	:	**7**
Section	:	**A**
School	:	**AKV Public School**
Login ID	:	**AKV110**

Mukesh A V's Performance Report

Bar chart titled "Topic wise Performance" with y-axis "Percentage of fluency":
- Data handling: 25.0
- Comparing Quantities: 20.0
- Number system: 36.4
- Algebra: 0.0
- Geometry: 40.0
- Basic arithmetic: 50.0
- Mensuration: 50.0

Score: 12/40   **Percentage: 30.0%**

Mukesh A V's Study Planner

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

Teacher's Feedback to Student

_____   _____
Class Teacher Signature   Principal Signature

Basic arithmetic

Topics to be Improved	
Types of angles	Identification of types of angles

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

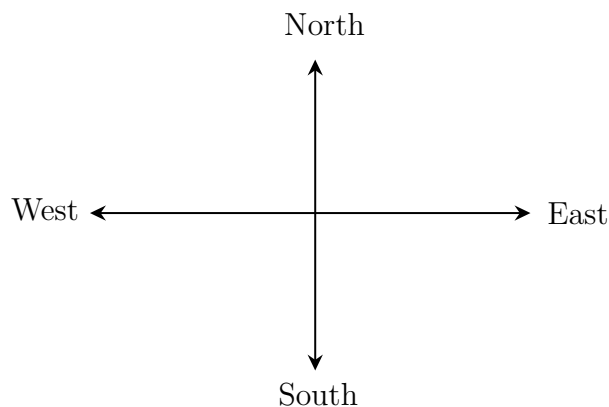## *Question: 1* ....

Find the angles.

Answer:

The angle ranges from ___° to ___°.
The angle perpendicular to 0° is ___°.
The straight line measures ___°.

Question: 2 ....

The angle formed between the directions

(i) West and East is _____ angle.

(ii) North and East is _____ angle.

(iii) East and South is _____ angle.

Answer:

The angle formed between West and East is ___° and it is called _____ angle.
The angle formed between North and East is ___° and it is called _____ angle.
The angle formed between East and South is ___° and it is called _____ angle.

Question: 3 ....

The addition of straight angle and right angle is _____ angle.

Answer:

The measurement of straight angle is _____°
The measurement of right angle is _____°.
Straight angle + Right angle = _____ + _____ = _____
It is called as _____ angle.

Mensuration

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.
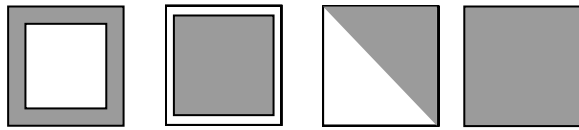
Answer:

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:
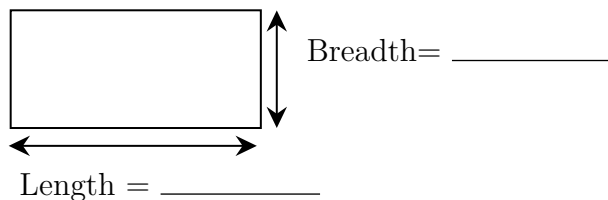
Breadth= _____

Length = _____

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

50 m × 10 m	25 m × 25 m	25 m × 20 m	30 m × 20 m
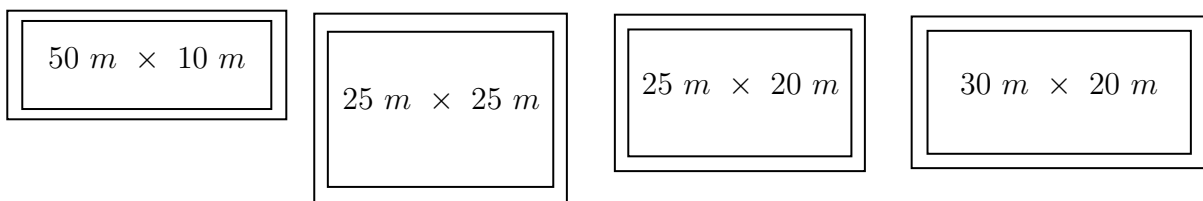
__Answer:__

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	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: 7 ....

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: 8 ....

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: 9 ....

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: 10 . . . .

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.
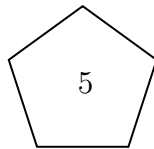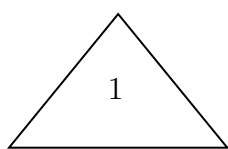
Answer:

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: 11 . . . .

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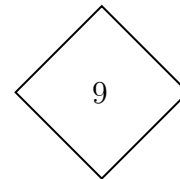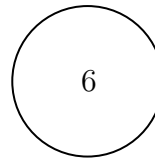
Answer:

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: 12 . . . .

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

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

Answer:

Mean = $\dfrac{\text{_____ of all observation}}{\text{number of observation}}$.

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: 13 ....

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: 14 ....

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

$$-20 + 51 \qquad \frac{-38-51}{2} \qquad 51 + 38 \qquad \frac{51+20}{2}$$

Answer:

Range = _____ - _____ .
Arranging the data in ascending order, _____
In the given data,
Highest value = ___ , Lowest value = ___ , Range = _____ − _____ = _____

Question: 15 ....

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	
Criteria for congruence of triangle	Idenfication of criteria of congruence of triangles
Types of triangle	Basics of types of triangle (sides)
Related angles	Basic of angles
Right angle triangle and pythagoras property	Basics of Pythagoras property
Faces vertex and edges	Idenfication of faces,edges and vertices
Sum of lengths of two sides of a triangle	Sum of two sides of a triangle

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

Question: 16 . . . .

Circle the groups that contain congruent images.
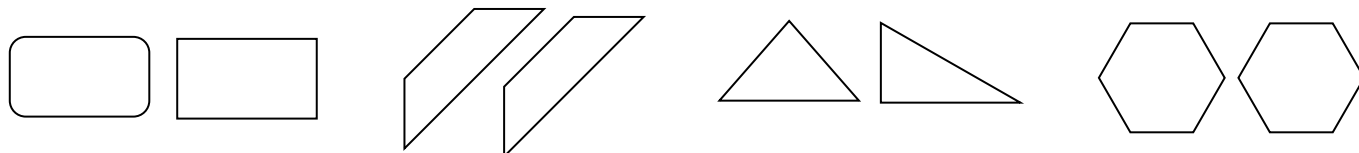
Answer:

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: 17 . . . .

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: 18 . . . .

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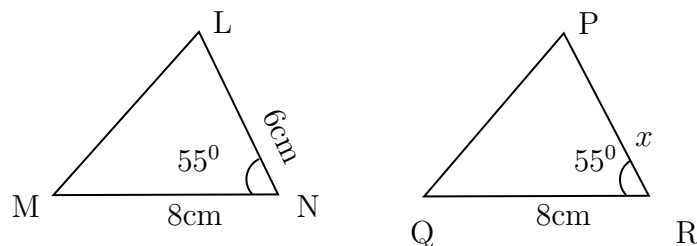
Answer:

The given two triangles satisfy _____ criteria of congruence.
By SAS congruence criteria, MN = _____ , _____ and ∠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 **Types of triangle**

Question: 19 . . . .
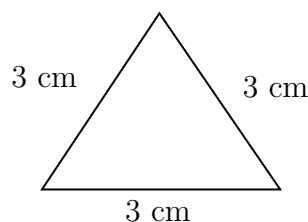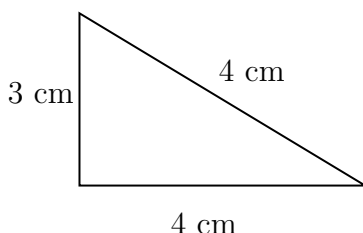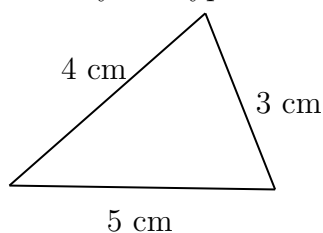
Polygon with three sides is called as _____.

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: 20 . . . .

Identify the types of triangles.

4 cm   3 cm   5 cm   3 cm   4 cm   4 cm   3 cm   3 cm   3 cm

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: 21 . . . .

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 **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 .
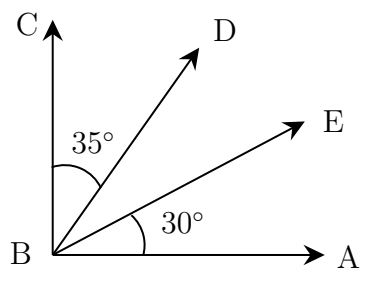
Answer:

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.

. . . .

Find the angle of $\angle DBE$

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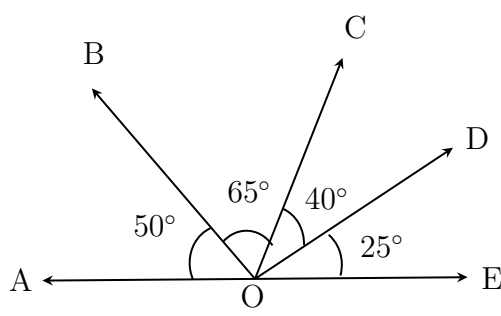
BA and BC are _____ (parallel / perpendicular) rays.
The angle formed between this rays is ___, $\angle ABC =$ ___.

$$\angle ABC = \angle ABE + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$$
$$= 30° + \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$$
$$= \underline{\hspace{1cm}}$$
$$\text{Therefore, } \angle DBE = \underline{\hspace{1cm}}$$

. . . .

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 **Pythagoras property**

Question: 25 ....

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

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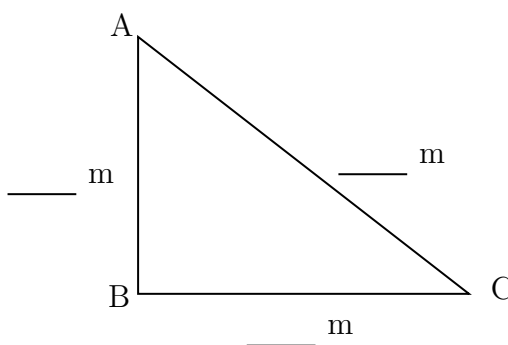
Pythagoras theorem is only applicable for _____ triangle.
Longest side of the triangle is _____ (hypotenuse/ legs) and other two sides are called _____(hypotenuse/ legs).
Pythagoras theorem states that _____.

Question: 26 ....

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.

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

Therefore, hypotenuse of the triangle is _____.

Question: 27 ....

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

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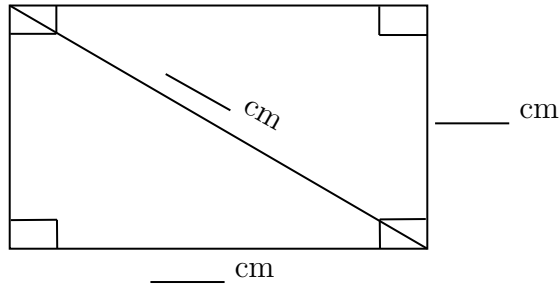
Pythagoras theorem states that square on the _____ = sum of the squares on _____.

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

Given: breadth = _____, length of diagonal = _____

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

Therefore, diagonal of the rectangle is _____

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,
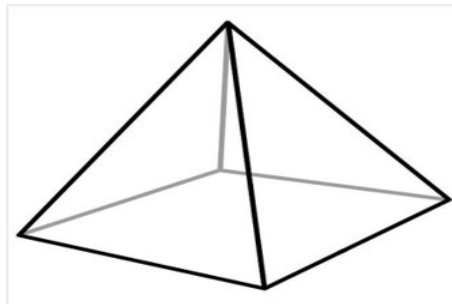
Question: 29 . . . .

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

Answer:
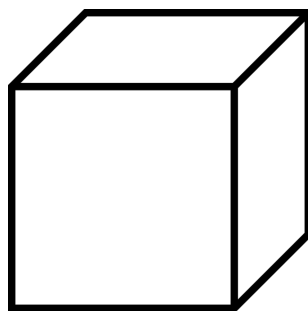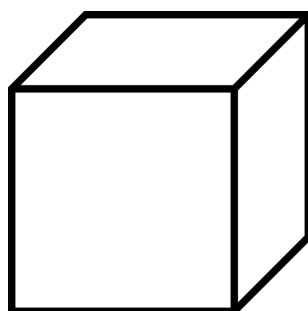
Mark the vertex, edges and faces in a cube.

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?
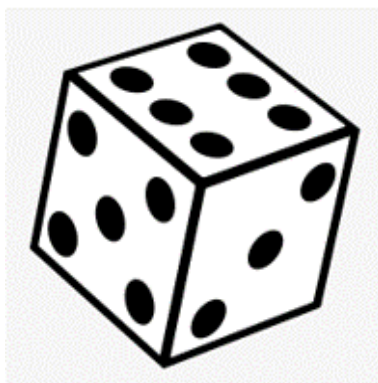
Answer:

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

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

Question: 31   . . . .

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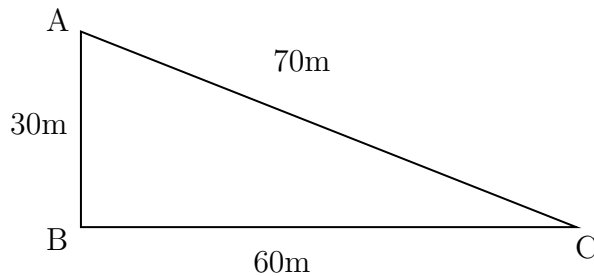Therefore, the greatest distance to reach C from A in the given diagram is _____.

Question: 32 ....

_____ (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 (<, >, =)
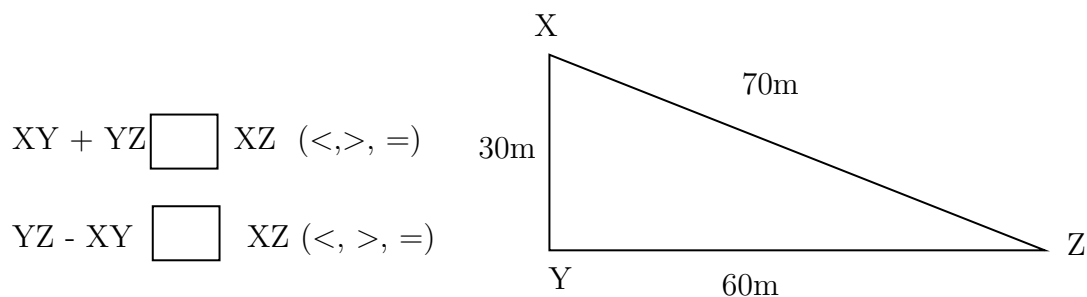
Question: 33 ....

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 ＿＿＿＿＿.

Number system

Topics to be Improved	
Operations on rational numbers	Division of rational numbers
Introduction to rational numbers	Basics of rational numbers
Positive and negative rational numbers	Identification of positive rational numbers
Decimals	Multiplication and division of decimals
Fractions	Multiplication of fractions
Integers	Basics of integers
Exponents	Solving exponents

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

Question: 34 ....

Fill in the boxes to make the given expression correct.

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

Answer:

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

Here, dividend = _____ and divisor = _____

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

Question: 35 ....

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 = _____.

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

Question: 36 ....

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

Answer:

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

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

Transposing 8/3 to RHS,

$$\frac{\Box}{16} = 2 \;\Box\; \frac{8}{3}$$

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

$$\frac{\Box}{16} = \frac{\Box}{\Box}$$

Transposing 16 to other side, the result is _____.

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

Question: 37 ....

The numbers in the diagram represents_____.
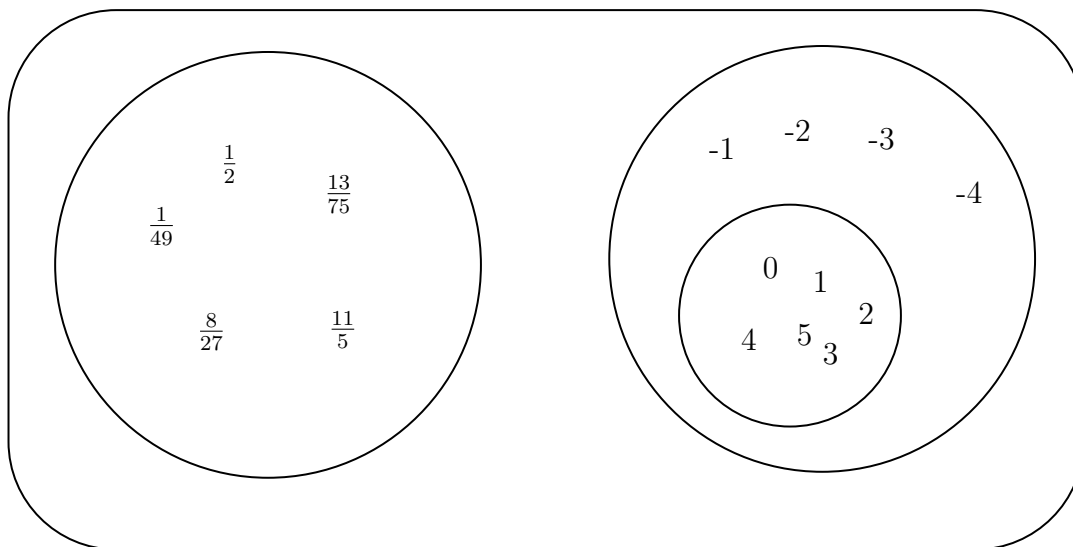
Answer:

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: 38 . . . .

Shade the correct form of rational numbers.
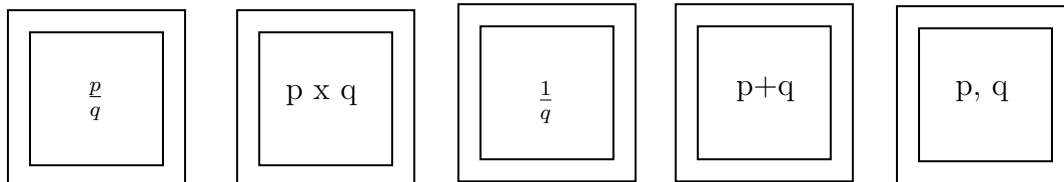
| $\frac{p}{q}$ | p x q | $\frac{1}{q}$ | p+q | p, q |

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: 39 . . . .

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.

Question: 40 . . . .

Segregate positive and negative rational number.

$$\frac{3}{-2}$$

-10 1

$\frac{3}{7}$ -1 $\frac{-9}{27}$

55

-6.3 $\frac{4}{5}$ $\frac{-9}{1}$
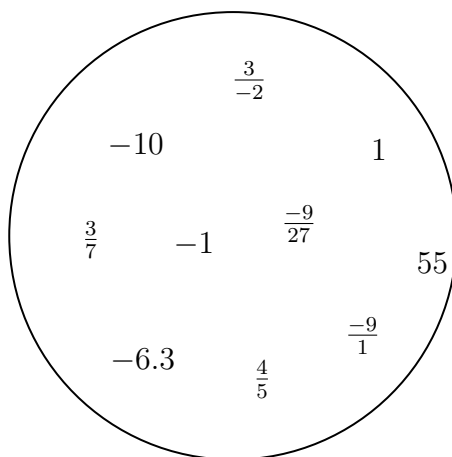
Answer:

- 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: 41 . . . .

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

Answer:

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

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

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

Question: 42 . . . .

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

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

Question: 43

Shade 0.4 part of the given shape.
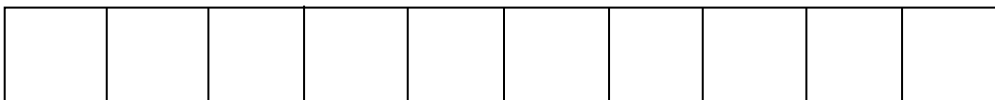
Answer:

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 $\times$ 1.2

(ii) 0.48 $\times$ 1.2

Answer:

(i) 0.4 $\times$ 1.2 :
Multiplication of 0.4 $\times$ 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 $\times$ 1.2:
Multiplication of 0.48 $\times$ 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 **Multiplication on fractions**

Question: 46 ....

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: 47 ....

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 = $\dfrac{\square}{\square}$ × _____ = _____

Question: 48 ....

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, $\frac{(\text{ Whole } \times \underline{\hspace{2cm}}) + \text{N}umerator}{\text{D}enominator}$
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 **Basics of integers**

Question: 49 . . . .

Highlight the ring that contains whole numbers.
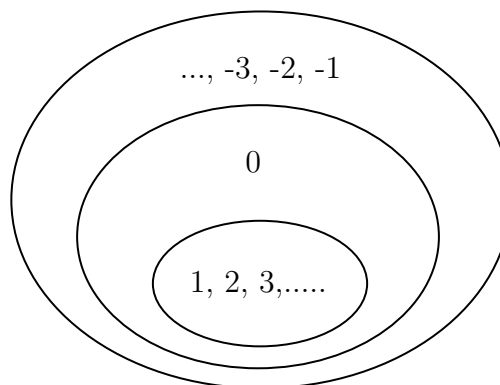
Answer:

The numbers inside the inner ring (1, 2, 3,. . . .) are _____ numbers.
The numbers inside the middle ring are _____ numbers.
The numbers inside the outer ring are negative numbers, positive numbers and zero and they are
called as _____.

Question: 50 . . . .

Colour the frame of the box which contains the number 1, 4 and -10

Whole numbers	Negative numbers	Integers	Naturals numbers

Answer:

Whole number consists of <u>0,1,2,3,4,.....</u> Negative number consists of _____.
Natural numbers consists of _____. Integers consists of _____.
Now, 1, 4, -10 are in _____.

Question: 51 ....

State whether the statement is true or false.
        Every positive number is an integer.

Answer:

Positive numbers are _____. Integers consists of _____.
Therefore, positive numbers are _____ (in/not in) integers.

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

Question: 52 ....

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).

$$1000 \text{ can be written as} = 10 \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$
$$10 \text{ is raised to the power of } \underline{\hspace{0.5cm}} = (10)^{\underline{\hspace{0.5cm}}}$$

Question: 53 ....

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.

$$\text{In this exponential form } (-2)^3 \text{ , base} = \underline{\hspace{0.5cm}}, \text{ power} = \underline{\hspace{0.5cm}}.$$
$$(-2)^3 = \underline{\hspace{0.5cm}} \times \underline{\hspace{0.5cm}} \times \underline{\hspace{0.5cm}} = \underline{\hspace{0.5cm}}.$$

Question: 54 ....

(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 $= (Base)^{\overline{\qquad}}$

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

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

Comparing Quantities

Topics to be Improved	
Equivalent ratios	Basic of proportion
Simple interest	Calculation of simple interest
Conversion of fraction into percentage	Conversion of fraction into percentage
Percentage	Basic of percentage

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

Question: 55

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: 56

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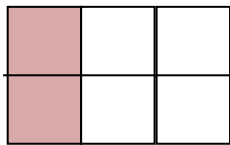
A
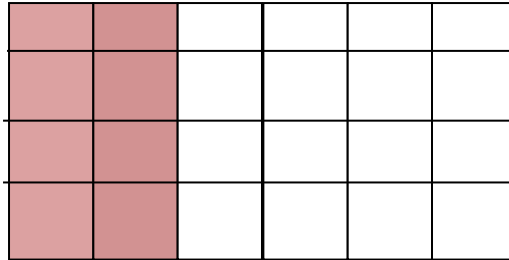
B

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: 57

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

$a = \dfrac{bc}{d}$	$c = \dfrac{ad}{b}$	$ad = cd$

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

Hi, here in this video you will learn **Simple Interest**

Question: 58   . . . .

Match the following.

Column A			Column B	
i	Principle(P)	a	Interest calculated based on this
ii	Amount (A)	b	Total sum you borrow
iii	Rate (R)	c	Number of years
iv	Time period (T)	d	Total sum with interest

Answer:

Formula for calculating simple interest = _____.
Interest calculated based on _____.
Total sum you borrow is known as _____.
Number of years is _____. Total sum with interest is _____.

Question: 59   . . . .

Sara deposited Rs.1200 in a bank. After three years, she received Rs.1320. Find the interest she earned.

Answer:

Given:
Amount = _____ , Principle = _____ , Time period = _____.
If Amount and principle is given, then formula for calculating interest is _____.
Interest = _____ - _____ = _____

Question: 60   . . . .

The simple interest on Rs.5000 for 3 years is Rs.1350. Find the rate of interest.

Answer:

Interest = _____ , Time period = _____ , Principal = _____.

Rate of interest $\quad = \dfrac{\text{\_\_\_\_\_ x } 100}{\text{Principal x \_\_\_\_\_}}$

Substituting values in the formula,

Rate of interest $\quad = \dfrac{\text{\_\_\_\_\_ x } 100}{\text{Principal x \_\_\_\_\_}}$

Rate of interest = _____

Therefore, the rate of interest is _____ %

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

Question: 61 . . . .

Complete the box in the given equation.

$5\% \quad = \dfrac{5}{\Box}$

Answer:

Percentage are the fraction with the denominator _____.

Therefore, 5% can be expressed as _____

Question: 62 . . . .

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: 63 . . . .

Find the percentage of shaded part of square.
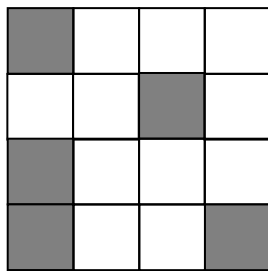
Answer:

The square shape is divided into _____ parts.

Number of shaded part of square is _____.

Shaded part of square in fraction is $\dfrac{\Box}{\Box}$

To Convert $\dfrac{\Box}{\Box}$ into percentage , $\dfrac{\Box}{\Box}$ x 100

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

Question: 64

2% can be written as

Answer:

Percentages are numerators of fractions with denominator _____

$$2\% = \dfrac{\Box}{\Box}$$

Question: 65

Arun attended the LaPIS test for 100 marks and got 75% marks. What is the mark scored by Arun?

Answer:

Arun attended LaPIS test for _____ marks. He got _____ marks.

75 % can be written in fraction form $\dfrac{\Box}{\Box}$

Then the mark scored by Arun $=$ Total mark $\times$ 75% $=$ _____ $\times$ $\dfrac{\boxed{}}{\boxed{}}$ $=$ _____

Question: 66 . . . .

There are 25 apples in a basket in which 10 of them are rotten. Find the percentage of rotten apples.

Answer:

There are _____ apples in a basket.
Number of rotten apples are _____ .

Fraction form of rotten apples in a basket $=\dfrac{\boxed{}}{\boxed{}}$

Convert it into a percent= _____ x _____% = _____

Algebra

Topics to be Improved	
Basics of simple equation	Formating of simple equation, Solving of simple equation
Monomials, binomials, trinomials and polynomials	Types of algebraic expression
subtraction of algebraic expressions	subtraction of algebraic expressions
Addition and subtraction of algebraic expressions	Like terms and Unlike terms
Terms of an expression	Identification of terms in an expression

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

Question: 67 ....

Box A   **Box B**
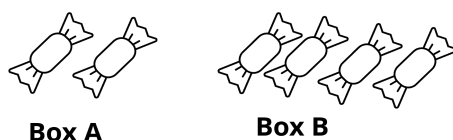
Box B contains _____ times the number of chocolates in Box A

Answer:

Box A contains _____ chocolates.
Box B contains _____ chocolates.
No. of chocolates in Box B = _____ × (No. of chocolates in Box A)

Question: 68 ....

Write the equation for the following statement.
Subtracting four times of m from 4 is n

Answer:

Four times of m = _____
Subtracting four times of m from 4 = _____

The equation is _____

Compare the given two statements $(<, >, =)$
Sum of $2a$ and 9 ☐ Add 9 to the product of a and 2

Answer:

$$\text{Sum of } 2a \text{ and } 9 \ = \ \underline{\hspace{1.5cm}}$$
$$\text{Product of } a \text{ and } 2 = \ \underline{\hspace{1.5cm}}$$
$$\text{Add } 9 \text{ to the product of } a \text{ and } 2 = \ \underline{\hspace{1.5cm}}$$

Therefore, sum of $2a$ and 9 ☐ Add 9 to the product of a and 2

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

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.

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: 72 ....

$5m^2 + m + 0$ 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 **Subtraction on expression**

Question: 73 ....

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: 74 ....

	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: 75 ....

Solve the following:

$$
\begin{array}{r}
13x + \underline{\quad} \\
(+) \quad 12x + 10y \\
\hline
\underline{\quad} + 25y
\end{array}
\qquad
\begin{array}{r}
3a - 5b \\
(-) \quad 5a - 7b \\
\hline
-2a - \underline{\quad}
\end{array}
$$

Answer:

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

$$
\begin{array}{r}
13x + \underline{\quad} \\
(+) \quad 12x + 10y \\
\hline
\underline{\quad} + 25y
\end{array}
\qquad
\begin{array}{r}
3a - 5b \\
(-) \quad 5a - 7b \\
\hline
-2a - \underline{\quad}
\end{array}
$$

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

Question: 76 ....

If ☺ $= 5$, then 5 ☺ $+5 =$ _____

Answer:

The value of the given smiley ☺ is _____.
Substituting the value in the expression $= 5(\underline{\quad}) + 5 =$ _____ $+$ _____ $=$ _____.

Question: 77 ....

Which of the following number can be placed in the box to make the equation correct (-2, -1, 0, 1, 2)

$7\boxed{} + 3 = -4$

Answer:

The given equation is $7\underline{\quad} +3 = -4$ Substitute the values (-2, -1, 0, 1, 2) in the circle,

$7\times \underline{\quad} +3 = \underline{\quad}$
$7\times \underline{\quad} +3 = \underline{\quad}$
$7\times \underline{\quad} +3 = \underline{\quad}$
$7\times \underline{\quad} +3 = \underline{\quad}$
$7\times \underline{\quad} +3 = \underline{\quad}$

Therefore, _____ is the number that can be placed in a box to make the equation correct.

Question: 78 ....

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

$$2x = 2\times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \qquad\qquad 2x - 4 = 2\times \underline{\hspace{1cm}} \text{ - } 4 = \underline{\hspace{1cm}}$$

$$x + 3 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \qquad\qquad \frac{1}{2}x = \frac{1}{2} \times \underline{\hspace{0.6cm}} = \underline{\hspace{1cm}}$$

$$5x \times 1 = 5 \times \underline{\hspace{1cm}} \times 1 = \underline{\hspace{1cm}}$$
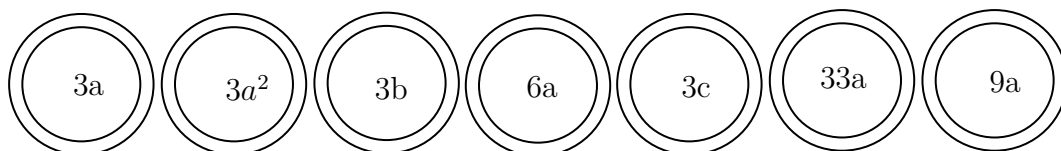
Arranging in descending order: ___, ___, ___, ___, ___.
Their respective algebraic terms are ___, ___, ___, ___, ___.

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

Question: 79 . . . .

Shade the like terms.

$$3a \qquad 3a^2 \qquad 3b \qquad 6a \qquad 3c \qquad 33a \qquad 9a$$

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 $7r^2 + \text{r}\,\boxed{} - 2\,\boxed{} = \underline{\hspace{0.6cm}}r^2$

Answer:

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

$$7r^2 + \text{r}\,\boxed{} - 2\,\boxed{} = \left(7 + \underline{\hspace{0.6cm}} - 2 \right)r^2 = \underline{\hspace{1cm}}$$

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 = _____ - _____ = _____

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

Question: 82 ....

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

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

Answer:

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

Terms	Constants	Variables

Question: 83 ....

Mark the expression that contains two terms.

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

Answer:

The terms in the expression $3x + 5$ is/are _____.
The terms in the expression $12a$ is/are _____.

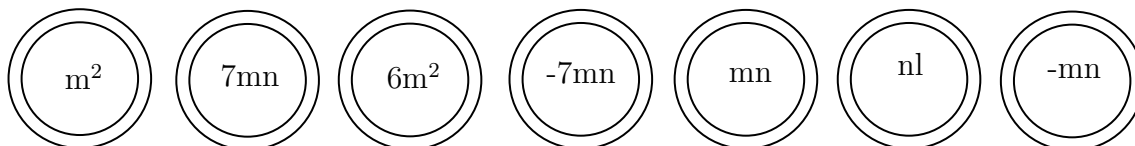The terms in the expression $4xy$ is/are _____.
The terms in the expression $12a + b + 1$ is/are _____.
The terms in the expression $7m + 0$ is/are _____.

Question: 84 . . . .

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

$$6m^2 - 7mn + nl$$

m^2 7mn $6m^2$ -7mn   mn   nl   -mn

Answer:

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

Here, _____, _____, _____ are the terms of the given expression.