

LaPIS Diagnostic Test Workbook - Mathematics

Name : Jayanth V

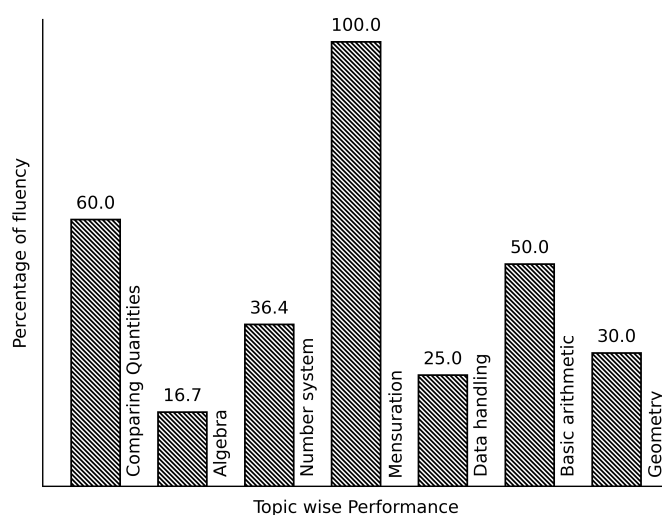
Class : 7

Section : B

School : AKV Public School

Login ID : AKV140

Jayanth V's Performance Report



Score: 15/40

Percentage: 37.5%

Jayanth 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.



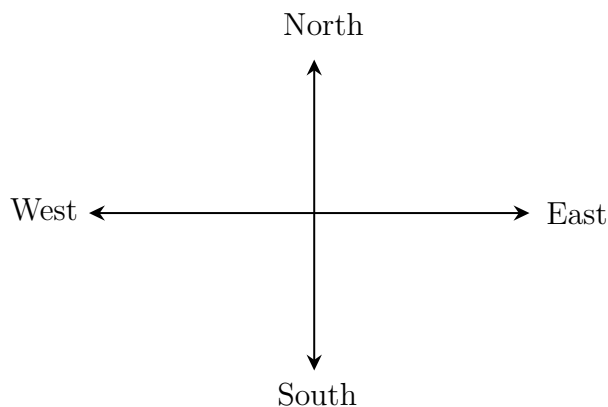
Answer:

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.

Data handling

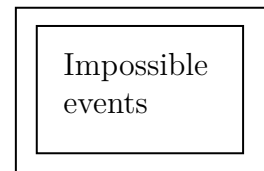
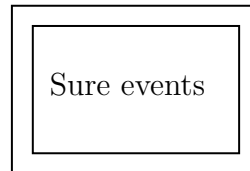
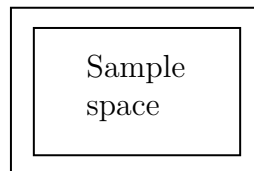
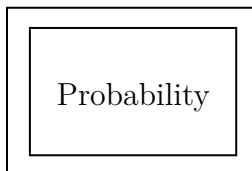
Topics to be Improved	
Chance of probability	Sample space in probability, Basis of probability
Arithmetic mean, mode and median	Mean, Median and Mode

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.

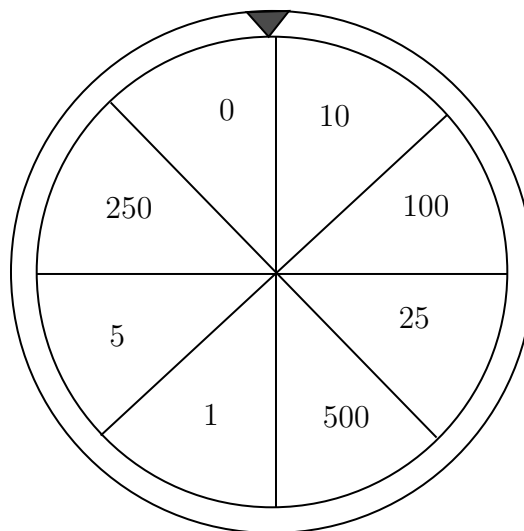
Sure events always _____ (occurs/don't occurs).

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 balls 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 + _____ ,

_____ + _____, _____ + _____,

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



Question: 7

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

Answer:

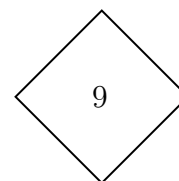
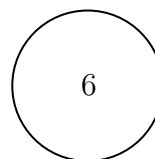
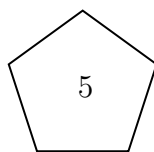
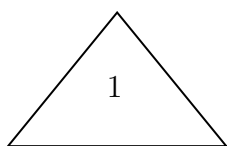
Mode is the number that occurs _____ (frequently / rarely) in a given list of observations.

Arranging the data in ascending order: _____

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

Question: 8

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



Answer:

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

Arrange the given data in ascending order : _____

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

Question: 9

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

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

Answer:

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

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

Therefore, mean = _____

Arrange the data in ascending order : _____

Here, median = _____ , mode = _____.

Hi, here in this video you will learn **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

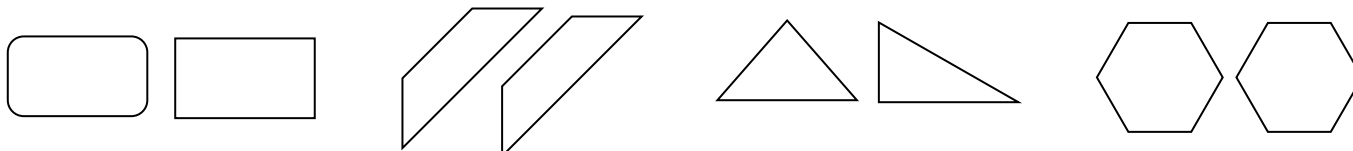
Topics to be Improved	
Criteria for congruence of triangle	Identification of criteria of congruence of triangles
Types of triangle	Basics of types of triangle (sides)
Faces vertex and edges	Identification of faces, edges and vertices
Sum of lengths of two sides of a triangle	Sum of two sides of a triangle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

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



Question: 13

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: 14

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:

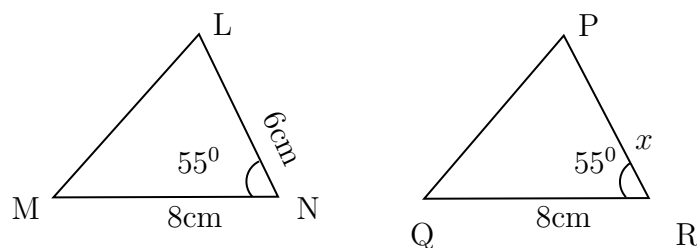
Two triangle are _____ (congruent/not congruent) if they are identical in shapes and size. Criteria for congruence of triangles are SSS, _____ and _____.

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: 15

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 $\triangle LNM$ 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 _____ $\triangle LNM$.
 Therefore, length of side $PR =$ _____

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



Question: 16

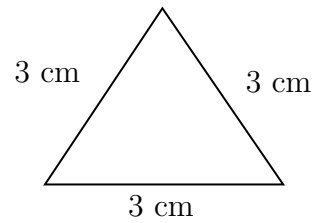
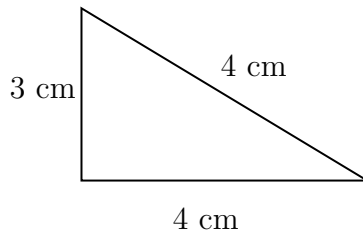
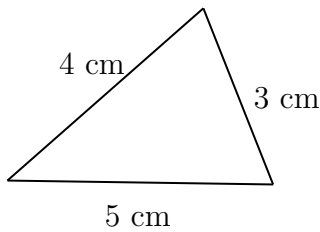
Polygon with three sides is called as _____.

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 **Basics of 3D model**



Question: 19

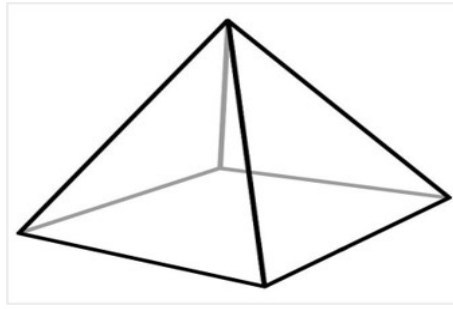
A point at which two or more lines segments meet is called _____(Vertex/ edges/ faces).

Answer:

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

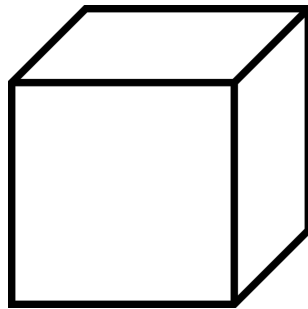
A _____ is a point where two or more line segments meet(Vertex/ edges/ faces).

Mark the vertices in the diagram,



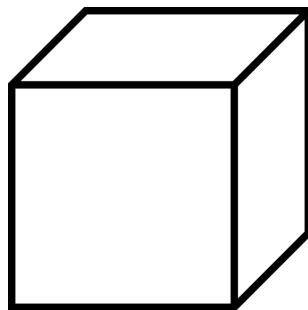
Question: 20

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



Answer:

Mark the vertex, edges and faces in a cube.



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

Cube have _____ vertices, _____ edges and _____ faces.

Question: 21

How many vertices, edges and faces does dices have?



Answer:

The shape of dice is _____.

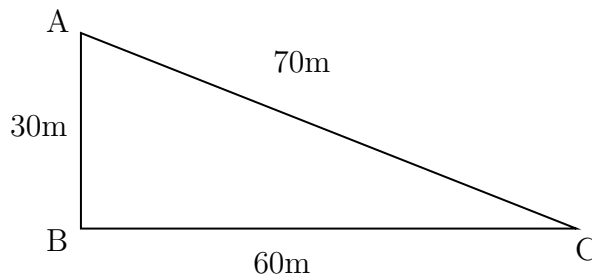
Dices have _____ vertices, _____ edges and _____ faces.

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



Question: 22

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: 23

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

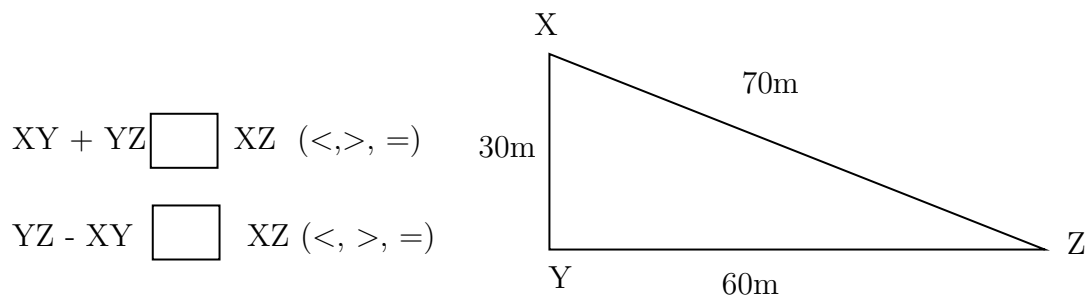
Answer:

There are _____ sides in a triangle.

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

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

Example: In triangle XYZ,



Question: 24

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

Answer:

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

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

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



Question: 25

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

Answer:

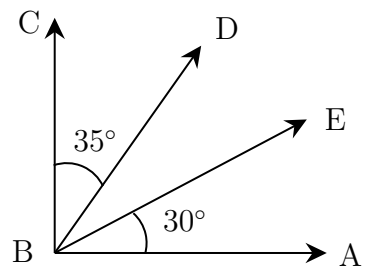
A _____ (line segment /ray) begins from one point and travels endlessly in a direction.

- 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: 26

Find the angle of $\angle DBE$



Answer:

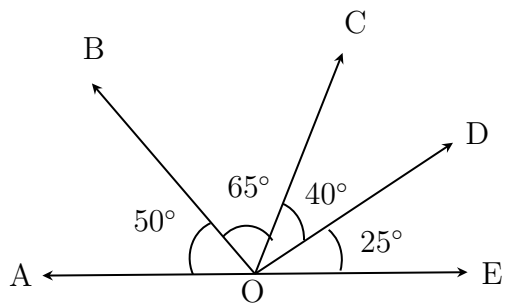
BA and BC are _____ (parallel / perpendicular) rays.
 The angle formed between this rays is _____, $\angle ABC =$ _____.

$$\begin{aligned} \angle ABC &= \angle ABE + \text{_____} + \text{_____} \\ &= 30^\circ + \text{_____} + \text{_____} \\ &= \text{_____} \end{aligned}$$

Therefore, $\angle DBE =$ _____

Question: 27

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: 28

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

Answer:

Pythagoras theorem is only applicable for _____ triangle.

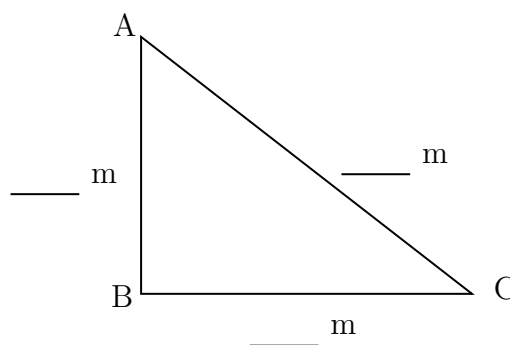
Longest side of the triangle is _____ (hypotenuse/ legs) and other two sides are called _____ (hypotenuse/ legs).

Pythagoras theorem states that _____.

Question: 29

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.

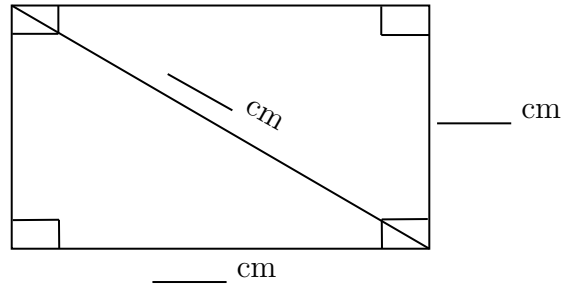
By Pythagoras theorem, $(\text{_____})^2 = (\text{_____})^2 + (\text{_____})^2$
 $\text{_____} = \text{_____} + \text{_____}$

Therefore, hypotenuse of the triangle is _____.

Question: 30

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, $(\text{_____})^2 = (\text{_____})^2 + (\text{_____})^2$
 $\text{_____} = \text{_____} + \text{_____}$

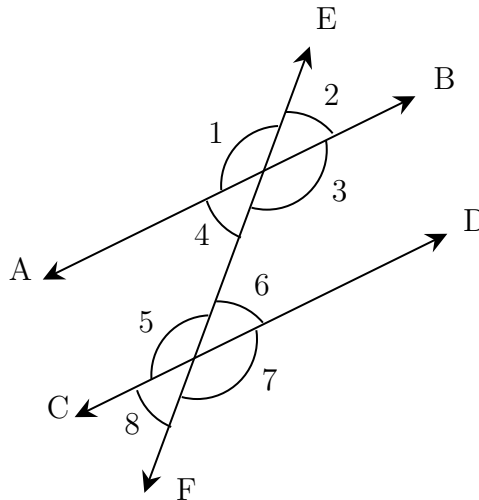
Therefore, diagonal of the rectangle is _____

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:

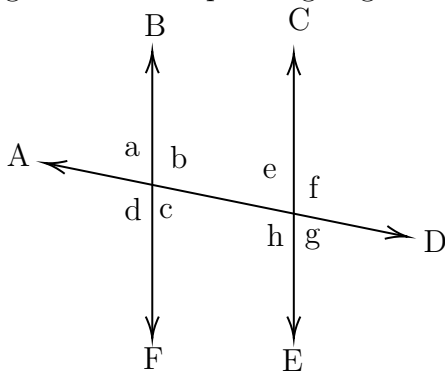
A line that intersects two or more lines at distinct points is called a _____ (transversal/ Intersecting line).

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.



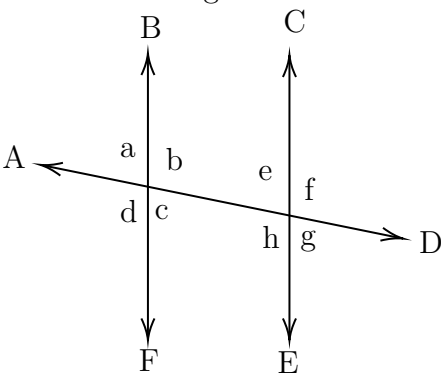
Answer:

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
$\angle a$ and $\angle g$, $\angle b$ and $\angle h$,	$\angle a$ and $\angle e$, $\angle b$ and $\angle f$,

Question: 33

Find $\angle e$ and $\angle g$ if $\angle a = 30^\circ$.



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 $\angle a$ is _____ and its value is _____.
Corresponding angle of $\angle a$ is _____ and its value is _____.

Number system

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

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



Question: 34

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: 35

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: 36

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

Answer:

One box contains _____ chocolates. The cost of one box is _____

Then cost of one chocolate = _____ \div _____ = _____

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

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

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

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

Then the cost of one chocolate is _____ .

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

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



Question: 37

Fill in the boxes to make the given expression correct.

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

Answer:

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

Here, dividend = _____ and divisor = _____

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

Question: 38

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 = _____.

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

Question: 39

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

Answer:

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

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

Transposing $8/3$ to RHS,

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

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

$$\frac{\boxed{}}{16} = \frac{\boxed{}}{\boxed{}}$$

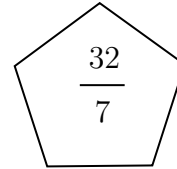
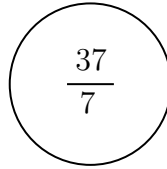
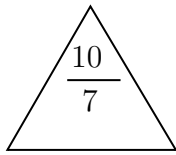
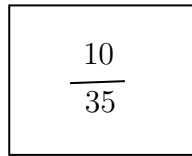
Transposing 16 to other side, the result is _____.

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



Question: 40

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, $\frac{(\text{Whole} \times \text{Denominator}) + \text{Numerator}}{\text{Denominator}}$

$$5\frac{2}{7} = \frac{(\text{ } \times \text{ }) + \text{ }}{7} = \frac{\boxed{}}{\boxed{}}$$

Question: 41

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 = _____.

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

Question: 42

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

Answer:

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

$$\frac{12}{40} \div \text{ } = \frac{12}{40} \times \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

Then the answer is _____

Hi, here in this video you will learn **Law of exponents**



Question: 43

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

Answer:

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

$$\begin{aligned}\text{In } (x)^0 \text{ base} &= \text{_____} \\ \text{Power} &= \text{_____}\end{aligned}$$

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

Question: 44

- 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: 45

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

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

Answer:

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

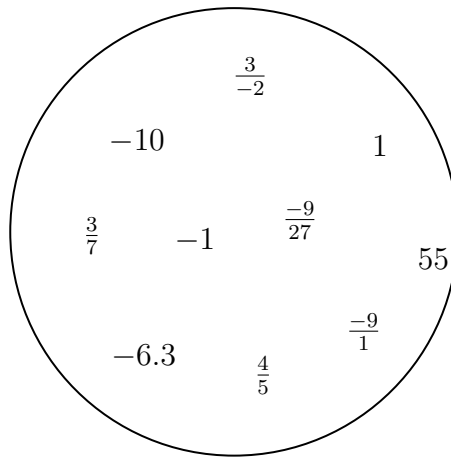
$$\begin{aligned}(a^0 \times b^1) + (m^1 \times n^0) + (x^0 \times y^1) &= (\text{_____}) + (\text{_____}) + (\text{_____}) \\ &= \text{_____} + \text{_____} + \text{_____} \\ &= \text{_____}\end{aligned}$$

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



Question: 46

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: 47

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

Answer:

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

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

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

Question: 48

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

Answer:

Examples for positive rational numbers: _____

Examples for negative rational numbers: _____

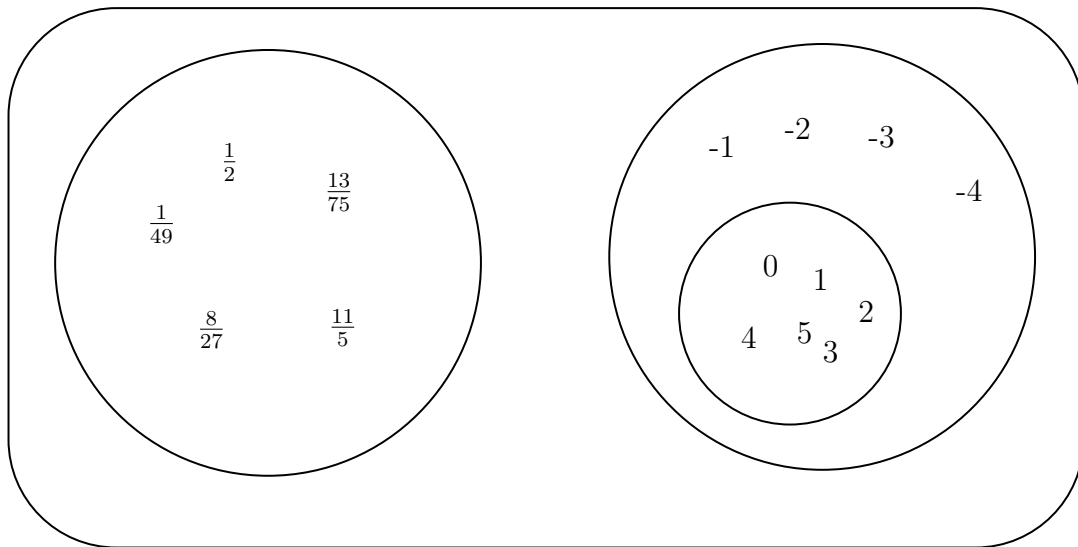
Positive rational number \times Negative rational number = _____ \times _____ = _____ and this is _____ rational number

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



Question: 49

The numbers in the diagram represents _____.



Answer:

0, 4, 5, 2, 3, 1 are _____ numbers.

-1, -2, -3, -4 are _____ numbers.

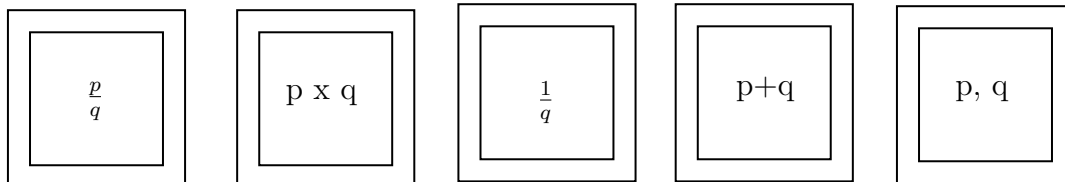
The combination of these circles are called _____.

$\frac{1}{49}$, $\frac{1}{2}$, $\frac{8}{27}$, $\frac{11}{5}$, $\frac{13}{75}$ are _____.

Combination of all three circles are called as _____ numbers.

Question: 50

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: 51

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

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.

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

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)---

(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
Percentage	Basic of percentage

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



Question: 55

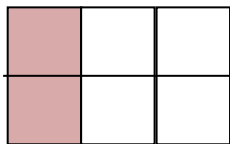
If $a:b$ and $c:d$ are equivalent ratio, then it can be expressed as _____

Answer:

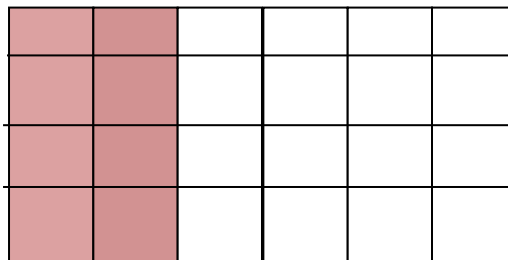
A _____ (proportion / ratio) is used to express _____ (one/two) equivalent ratios.
Standard form to express proportion is _____.

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

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

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

$ad=cd$

Answer:

Two equivalent ratio which are proportion, it can be written as $a : b :: c : d$

or _____ = _____ (in fraction) .

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

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

Therefore, $a \times d =$ _____,

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

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



Question: 58

2% can be written as

Answer:

Percentages are numerators of fractions with denominator _____

$$2\% = \frac{\boxed{}}{\boxed{}}$$

Question: 59

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 $\frac{\boxed{}}{\boxed{}}$

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

Question: 60

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 = $\frac{\boxed{}}{\boxed{}}$

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

Algebra

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

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



Question: 61

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: 62

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: 63

$5m^2 + m + 0$ 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: 64

If $\odot = 5$, then $5 \odot + 5 =$ _____

Answer:

The value of the given smiley \odot is _____.

Substituting the value in the expression $= 5(\text{---}) + 5 = \text{---} + \text{---} = \text{---}$.

Question: 65

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 $7\text{---} + 3 = -4$ Substitute the values (-2, -1, 0, 1, 2) in the circle,

$$7 \times \text{---} + 3 = \text{---}$$

$$7 \times \text{---} + 3 = \text{---}$$

$$7 \times \text{---} + 3 = \text{---}$$

$$7 \times \text{---} + 3 = \text{---}$$

$$7 \times \text{---} + 3 = \text{---}$$

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

Question: 66

Arrange the terms in the descending order when the value of x is 2.

$$2x \quad 5x \times 1 \quad x + 3 \quad 2x - 4 \quad \frac{1}{2}x$$

Answer:

The given expression are _____.

The value of x is _____.

substituting value of x

$$2x = 2 \times \text{---} = \text{---}$$

$$2x - 4 = 2 \times \text{---} - 4 = \text{---}$$

$$x + 3 = \text{---} = \text{---}$$

$$\frac{1}{2}x = \frac{1}{2} \times \text{---} = \text{---}$$

$$5x \times 1 = 5 \times \text{---} \times 1 = \text{---}$$

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

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



Question: 67

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: 68

	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: 69

Solve the following:

$$\begin{array}{r} 13x + ______ \\ (+) \ 12x + 10y \\ \hline ______ + 25y \\ \hline \end{array}$$

$$\begin{array}{r} 3a - 5b \\ (-) \ 5a - 7b \\ \hline -2a - ______ \\ \hline \end{array}$$

Answer:

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

$$\begin{array}{r} 13x + ______ \\ (+) \ 12x + 10y \\ \hline ______ + 25y \\ \hline \end{array}$$

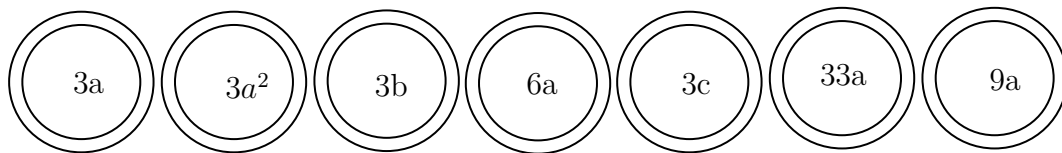
$$\begin{array}{r} 3a - 5b \\ (-) \ 5a - 7b \\ \hline -2a - ______ \\ \hline \end{array}$$

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



Question: 70

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: 71

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

Answer:

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

$$7r^2 + r \square - 2\square = (7 + ______ - 2)r^2 = ______$$

Question: 72

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 :

$$\text{Ram's chocolate} + \text{Sam's chocolates} = \text{_____} + \text{_____} = \text{_____}$$

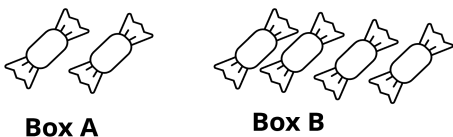
(ii) How many icecreams Sam have more than Ram :

$$\text{_____ icecream} - \text{_____ icecream} = \text{_____} - \text{_____} = \text{_____}$$

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



Question: 73



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

Answer:

Box A contains _____ chocolates.

Box B contains _____ chocolates.

$$\text{No. of chocolates in Box B} = \text{_____} \times (\text{No. of chocolates in Box A})$$

Question: 74

Write the equation for the following statement.

Subtracting four times of m from 4 is n

Answer:

$$\text{Four times of } m = \text{_____}$$

$$\text{Subtracting four times of } m \text{ from } 4 = \text{_____}$$

The equation is _____

Question: 75

Compare the given two statements ($<$, $>$, $=$)

Sum of $2a$ and 9 ☐ Add 9 to the product of a and 2

Answer:

Sum of $2a$ and 9 = _____

Product of a and 2 = _____

Add 9 to the product of a and 2 = _____

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