

LaPIS Diagnostic Test Workbook - Mathematics

Name : Sanjay S

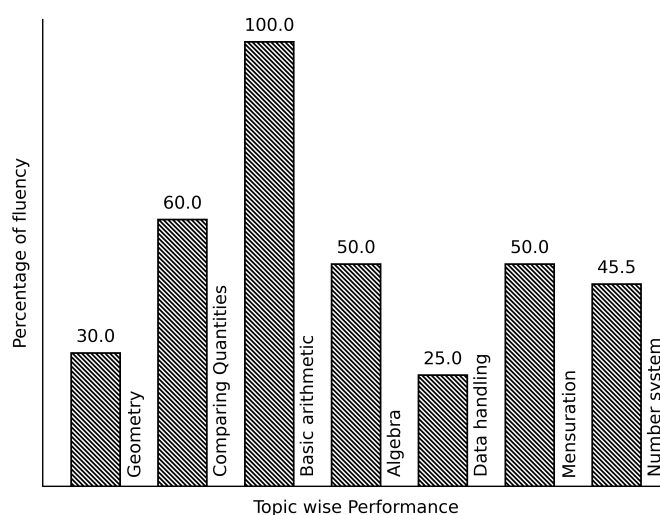
Class : 7

Section : A

School : AKV Public School

Login ID : AKV115

Sanjay S's Performance Report



Score: 18/40

Percentage: 45.0%

Sanjay S's Study Planner

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

Teacher's Feedback to Student

Class Teacher Signature

Principal Signature

Mensuration

Topics to be Improved

Area

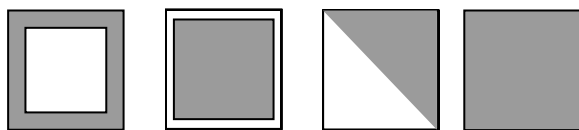
Area of rectangle

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



Question: 1

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



Answer:

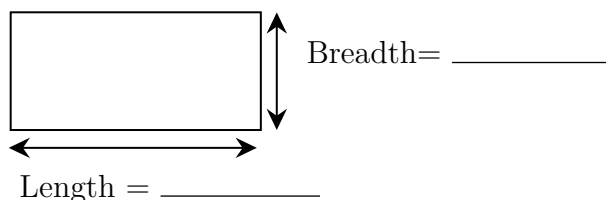
Given figure is _____ in shape.

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

Question: 2

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

Answer:



The garden is in _____ shape.

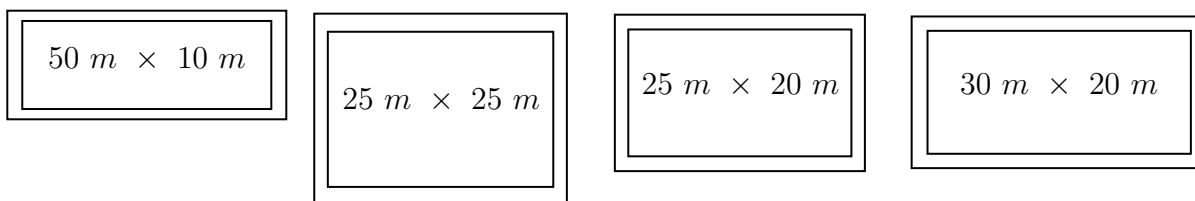
Length of garden is _____ and breadth of garden is _____.

Formula for area of the shape = _____.

The area of garden = _____ x _____ = _____ cm^2

Question: 3

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



Answer:

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

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

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

Data handling

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

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



Question: 4

Identify the sure events and impossible events

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

Answer:

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

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

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

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

Question: 5

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

Answer:

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

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

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

Question: 6

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

Answer:

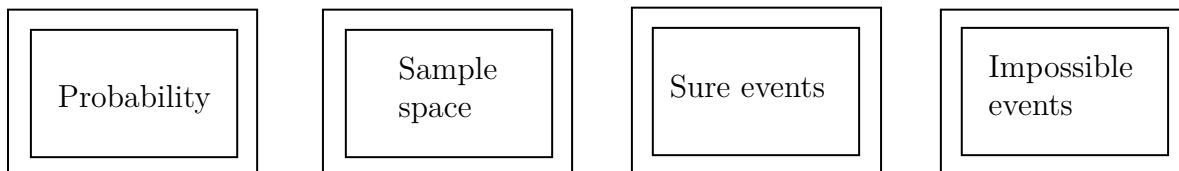
Things Raju have _____
 Does Raju have pen in his box, _____ (Yes/ No).
 Then probability of getting pen from his box is _____ (0/1)

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



Question: 7

Which of the following contains list of all possible outcomes.

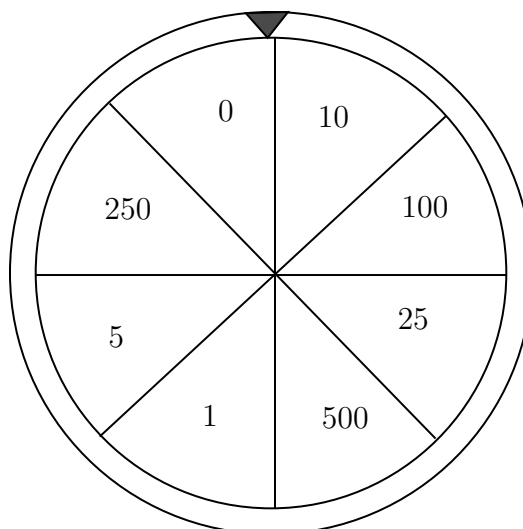


Answer:

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: 8

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: 9

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: 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:

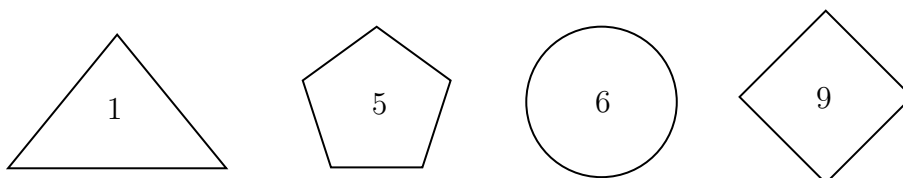
Mode is the number that occurs _____ (frequently / rarely) in a given list of observations.

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

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

Therefore, mean = _____

Arrange the data in ascending order : _____

Here, median = _____ , mode = _____.

Geometry

Topics to be Improved	
Right angle triangle and pythagoras property	Basics of Pythagoras property
Transversal angle made by transversal	Basics of Transversal angle
Related angles	Basic of angles, Complementary angles
Angle sum property of triangle	Angle sum property of triangle
Lines of symmetry for regular polygons	Identification of lines of symmetry
Criteria for congruence of triangle	Identification of criteria of congruence of triangles

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



Question: 13

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

Answer:

Pythagoras theorem is only applicable for _____ triangle.

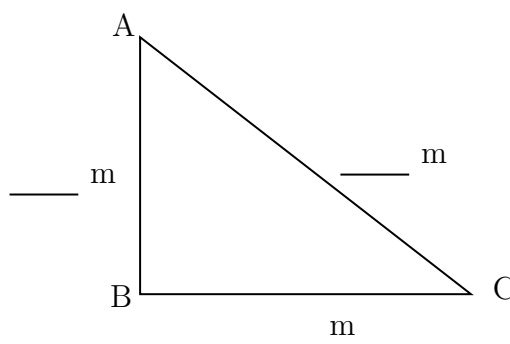
Longest side of the triangle is _____ (hypotenuse/ legs) and other two sides are called _____(hypotenuse/ legs).

Pythagoras theorem states that _____.

Question: 14

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.

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

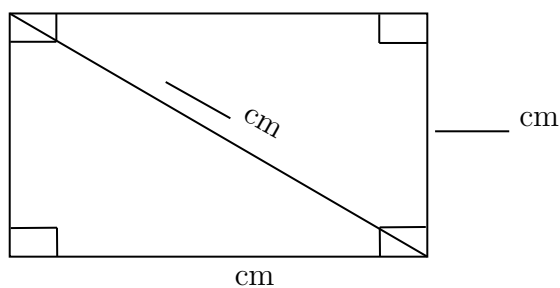
$$\text{_____} = \text{_____} + \text{_____}$$

Therefore, hypotenuse of the triangle is _____.

Question: 15

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 = _____

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

$$\text{_____} = \text{_____} + \text{_____}$$

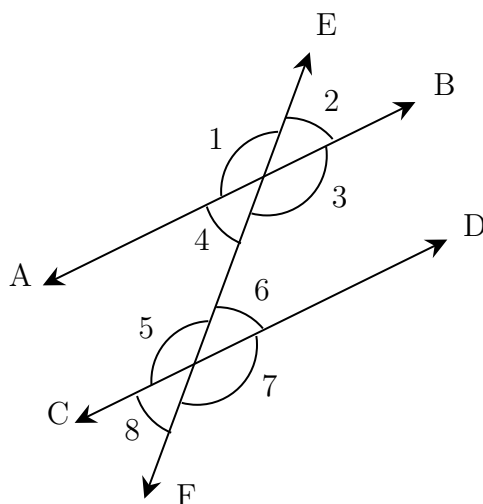
Therefore, diagonal of the rectangle is _____

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



Question: 16

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



Answer:

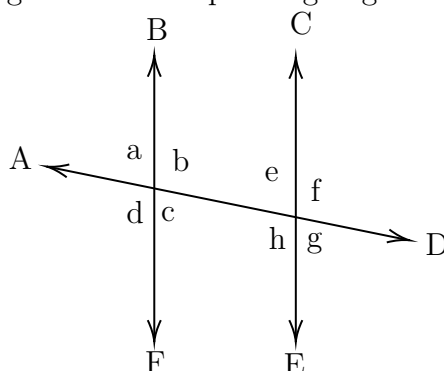
A line that intersects two or more lines at distinct points is called a _____ (transversal/Intersecting line).

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: 17

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



Answer:

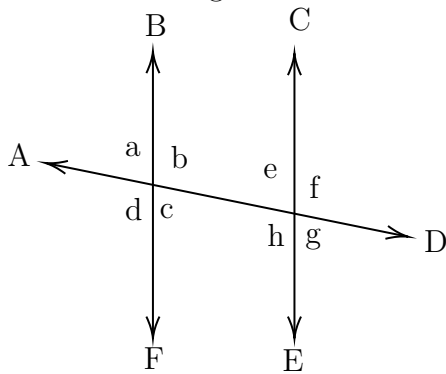
A line that intersects two or more lines at distinct points is called a _____ (transversal/Intersecting line).

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: 18

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 _____.

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



Question: 19

- (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 .

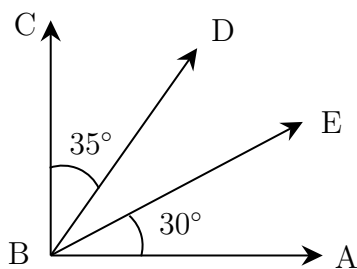
Answer:

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

- (i) The angle formed between two perpendicular rays is 90° 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 180° and it is called _____ angles.

Question: 20

Find the angle of $\angle DBE$



Answer:

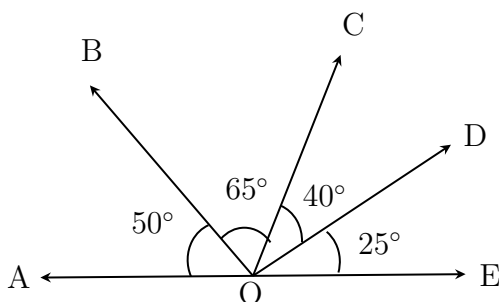
BA and BC are _____ (parallel / perpendicular) rays.
The angle formed between this rays is _____, $\angle ABC =$ _____.

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

Therefore, $\angle DBE =$ _____

Question: 21

Find the complementary angles in the given diagram.



Answer:

Two angles are said to 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 $\angle BOC$, _____

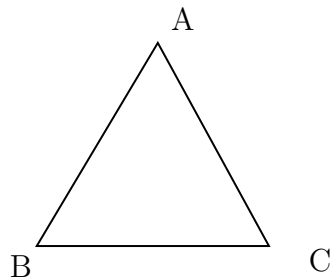
Hi, here in this video you will learn **Angle sum property**



Question: 22

Sum of the angles of triangle is _____.

Answer:



$$\angle A + \angle B + \angle C = \underline{\hspace{2cm}}$$

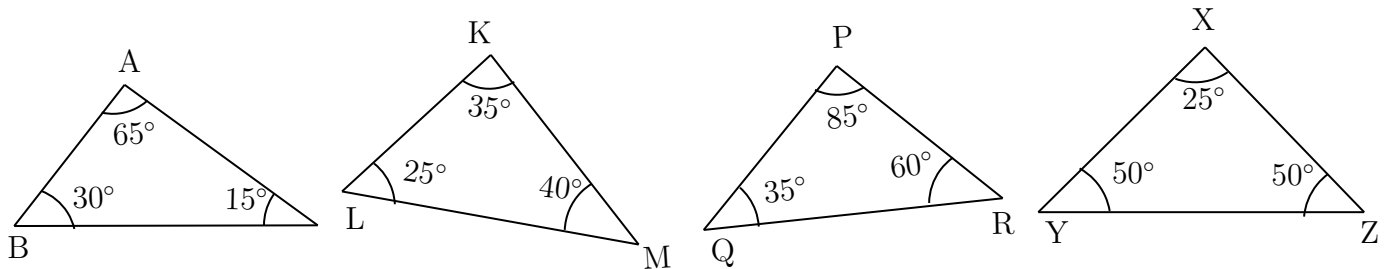
Angle sum formula = $(n - 2) \times 180^\circ$, n = number of sides

Triangle has sides.

Sum of the angles of triangle = $(\underline{\hspace{2cm}} - 2) \times 180^\circ = \underline{\hspace{2cm}}$

Question: 23

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 = $\angle A + \angle B + \angle C = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

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: 24

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, $8x + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = 180^\circ$. The value of $x = \underline{\hspace{2cm}}$

The angles of the triangle are

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



Question: 25

Line of symmetry is divides any shape into _____ (one / two) _____ (identical / non identical) halves.

Answer:

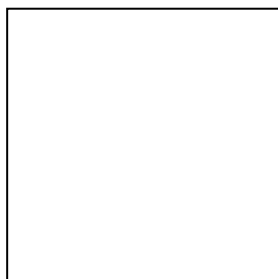
Lines of symmetry is a line that divides any shape into _____ (equal / unequal) halves.
Symmetrical image have _____ (identical / non identical) parts.
Therefore, line of symmetry is dividing the shape into _____ halves.

Question: 26

How many lines of symmetry does square have?

Answer:

Square have _____ sides.
All sides of square are _____ and all angles are _____.
Mark the lines of symmetry.



Therefore, square has _____ lines of symmetry.

Question: 27

Classify the following based on the symmetry.

Letter S, scalene triangle, Letter K, Rhombus, Number 8, and circle .

Answer:

Lines of symmetry is a line that divides the shape into _____ (equal / unequal) halves.
The letter S is _____ (symmetrical / asymmetrical) and have _____ lines of symmetry.
Scalene triangle is _____(symmetrical / asymmetrical) and have _____lines of symmetry.
The letter K is _____ (symmetrical / asymmetrical) and have _____ lines of symmetry.
Rhombus is _____(symmetrical / asymmetrical) and have _____ lines of symmetry.
Cat is _____ (symmetrical / asymmetrical) and have _____ lines of symmetry.
Stars is _____ (symmetrical / asymmetrical) and have _____ lines of symmetry.

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



Question: 28

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: 29

Shade the complementary angles.

$85^\circ, 95^\circ$	$45^\circ, 45^\circ$	$6^\circ, 84^\circ$	$73^\circ, 107^\circ$	$36^\circ, 64^\circ$	$90^\circ, 90^\circ$
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Answer:

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

$$\begin{aligned}85^\circ + 95^\circ &= \text{_____} \text{ and this is } \text{_____} \text{ (a / not a) complementary angles.} \\45^\circ + 45^\circ &= \text{_____} \text{ and this is } \text{_____} \text{ angles.} \\6^\circ + 84^\circ &= \text{_____} \text{ and this is } \text{_____} \text{ angles.} \\73^\circ + 107^\circ &= \text{_____} \text{ and this is } \text{_____} \text{ angles.} \\36^\circ + 64^\circ &= \text{_____} \text{ and this is } \text{_____} \text{ angles.} \\90^\circ + 90^\circ &= \text{_____} \text{ and this is } \text{_____} \text{ angles.}\end{aligned}$$

Question: 30

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 $15^\circ =$ _____,

Complement of $90^\circ =$ _____.

Supplement of $15^\circ =$ _____,

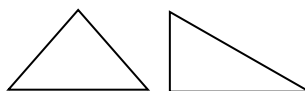
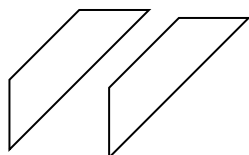
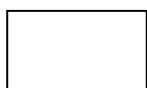
Supplement of $90^\circ =$ _____.

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



Question: 31

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: 32

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:

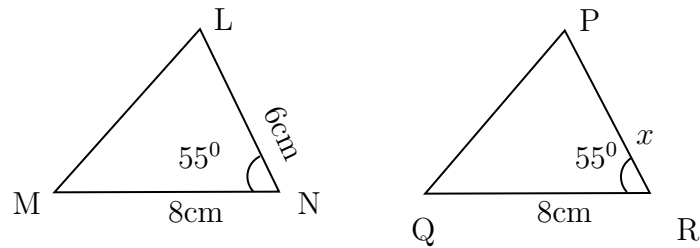
Two triangle are _____ (congruent/not congruent) if they are identical in shapes and size.
Criteria for congruence of triangles are SSS, _____ and _____.

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: 33

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 $MN = 8\text{ cm}$ 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 $PR =$ _____

Number system

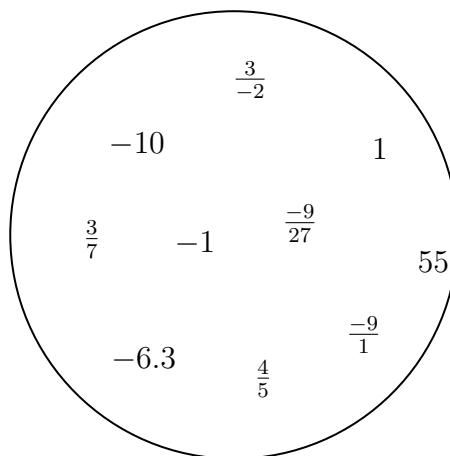
Topics to be Improved	
Positive and negative rational numbers	Identification of positive rational numbers
Operations on rational numbers	Subtraction of rational numbers
Exponents	Solving exponents
Fractions	Multiplication of fractions, Division of fraction
Law of Exponents	Law of Exponents

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



Question: 34

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: 35

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

Answer:

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

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

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

Question: 36

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 **Operation on rational numbers**



Question: 37

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

Answer:

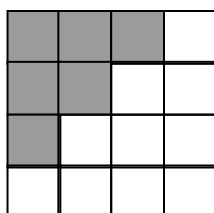
Fractions with same denominators are called _____ (like/ unlike) fractions.

Fraction can be added only if they are _____ (like/ unlike) fractions.

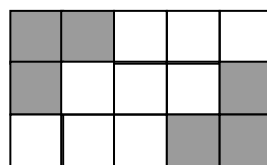
$$-\frac{3}{3} + \frac{1}{3} = -\frac{\quad}{3} =$$

Question: 38

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



A



B

Answer:

Total number of square in box A = _____.

Number of shaded square in box A = _____

Shaded part of box A in fraction = _____

Total number of square in box B = _____.

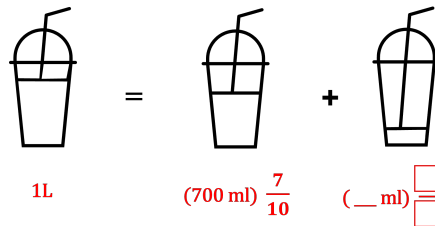
Number of shaded square in box B = _____.

Shaded part of box B in fraction = _____.

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

Question: 39

Find the missing values in the given figure.



Answer:

One litre = _____ ml

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

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

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

Therefore, result is _____.

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



Question: 40

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) —

Question: 41

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: 42

- (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 = _____.

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



Question: 43

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.

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

Question: 44

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 = $\frac{\boxed{}}{\boxed{}} \times \text{_____} = \text{_____}$

Question: 45

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

Improper fraction of $2\frac{7}{4} = \text{_____}$

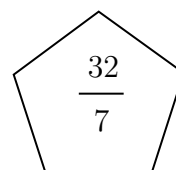
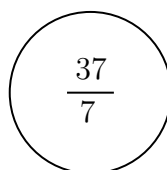
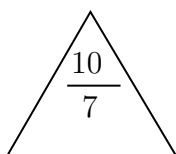
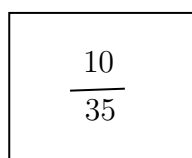
$$2\frac{7}{4} \times \frac{2}{3} = \frac{\boxed{}}{\boxed{}} \times \frac{2}{3} = \frac{\boxed{}}{\boxed{}}$$

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



Question: 46

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: 47

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: 48

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

Answer:

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

$$\frac{12}{40} \div \underline{\hspace{1cm}} = \frac{12}{40} \times \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

Then the answer is _____

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



Question: 49

$(x)^0$ 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: 50

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: 51

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.

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

Comparing Quantities

Topics to be Improved	
Equivalent ratios	Basic of proportion
Conversion of fraction into percentage	Conversion of fraction into percentage

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



Question: 52

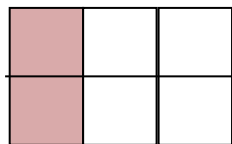
If $a:b$ and $c:d$ are equivalent ratio, then it can be expressed as _____

Answer:

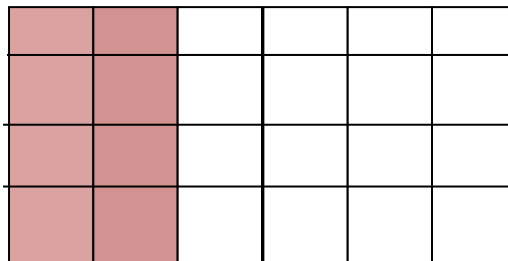
A _____ (proportion / ratio) is used to express _____ (one/two) equivalent ratios.
Standard form to express proportion is _____.

Question: 53

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



A



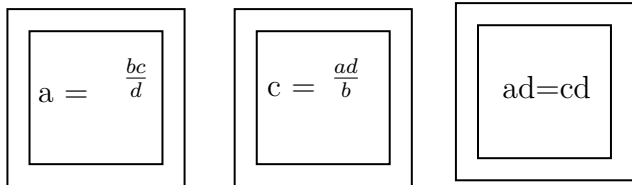
B

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: 54

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, $a \times d =$ _____,

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

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



Question: 55

Complete the box in the given equation.

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

Answer:

Percentage are the fraction with the denominator _____.

Therefore, 5% can be expressed as _____

Question: 56

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

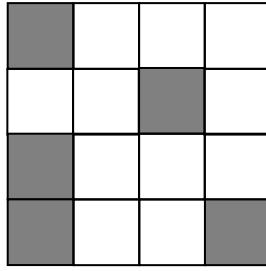
Answer:

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: 57

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 _____

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

Algebra

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

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



Question: 58

If $\odot = 5$, then $5 \odot + 5 = \underline{\hspace{2cm}}$

Answer:

The value of the given smiley \odot is $\underline{\hspace{2cm}}$.

Substituting the value in the expression $= 5(\underline{\hspace{1cm}}) + 5 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$.

Question: 59

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

$$7 \times \underline{\hspace{1cm}} + 3 = \underline{\hspace{1cm}}$$

$$7 \times \underline{\hspace{1cm}} + 3 = \underline{\hspace{1cm}}$$

$$7 \times \underline{\hspace{1cm}} + 3 = \underline{\hspace{1cm}}$$

$$7 \times \underline{\hspace{1cm}} + 3 = \underline{\hspace{1cm}}$$

$$7 \times \underline{\hspace{1cm}} + 3 = \underline{\hspace{1cm}}$$

Therefore, $\underline{\hspace{2cm}}$ is the number that can be placed in a box to make the equation correct.

Question: 60

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 $\underline{\hspace{4cm}}$.

The value of x is $\underline{\hspace{2cm}}$.

substituting value of x

$$2x = 2 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

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

$$x + 3 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\frac{1}{2}x = \frac{1}{2} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$5x \times 1 = 5 \times \underline{\hspace{2cm}} \times 1 = \underline{\hspace{2cm}}$$

Arranging in descending order: $\underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$.

Their respective algebraic terms are $\underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$.

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



Question: 61

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

Answer:

The given two expressions are $\underline{\hspace{2cm}}$ and $\underline{\hspace{2cm}}$.

The two terms will get added only if they are $\underline{\hspace{2cm}}$ (Like/ Unlike) terms.

The sum of two expressions = $\underline{\hspace{2cm}} + \underline{\hspace{2cm}}$.

The answer is $\underline{\hspace{2cm}}$

Question: 62

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

(ii) Total number of students in school B is $\underline{\hspace{2cm}}$

(iii) How many more teachers are there in school B than school A ? $\underline{\hspace{2cm}}$

Answer:

(i) Number of boys in school A = $\underline{\hspace{2cm}}$,

Number of boys in school B = $\underline{\hspace{2cm}}$.

Total number of boys in school A and school B is $\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$.

(ii) Number of boys in school B = $\underline{\hspace{2cm}}$,

Number of girls in school B = $\underline{\hspace{2cm}}$.

Total number of students in school B is $\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$.

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

Question: 63

Solve the following:

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

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

Answer:

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

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

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

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



Question: 64

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: 65

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: 66

$5m^2 + m + 0$ 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.