

LaPIS Diagnostic Test Workbook - Mathematics

Name : Praneeta Raj V N

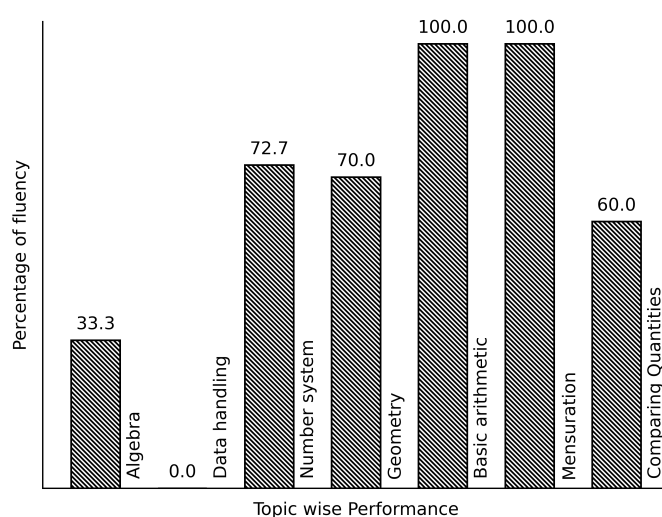
Class : 7

Section : B

School : AKV Public School

Login ID : AKV161

Praneeta Raj V N's Performance Report



Score: 24/40

Percentage: 60.0%

Praneeta Raj V N's Study Planner

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

Teacher's Feedback to Student

Class Teacher Signature

Principal Signature

Data handling

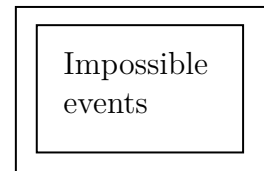
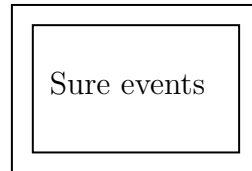
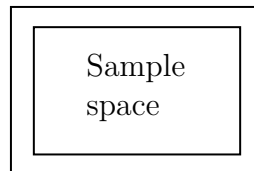
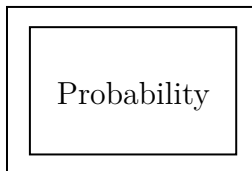
Topics to be Improved	
Chance of probability	Sample space in probability, Basis of probability
Arithmetic mean, mode and median	Mean, Median and Mode
Range	Finding the range

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



Question: 1

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.

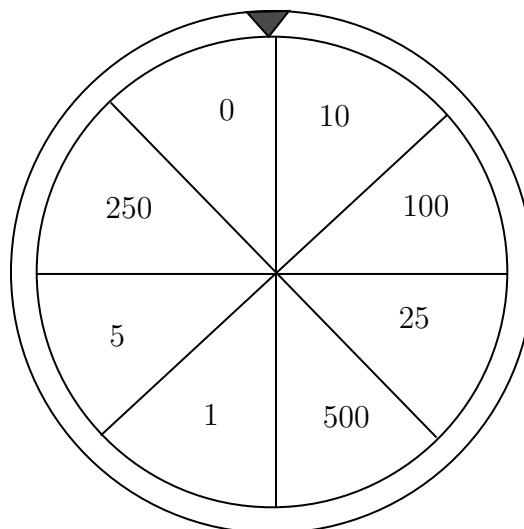
Sure events always _____ (occurs/don't occurs).

Impossible events _____ (occurs/ don't occurs).

Therefore, _____ contains list of possible outcomes.

Question: 2

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: 3

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 **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 **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:

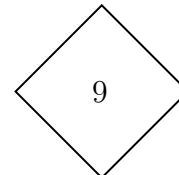
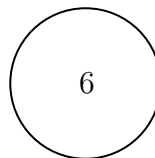
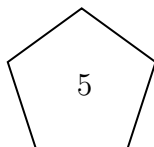
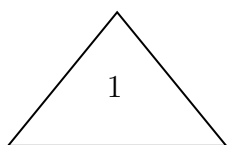
Mode is the number that occurs _____ (frequently / rarely) in a given list of observations.

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 **Range**



Question: 10

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: 11

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

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

Answer:

Range = _____ - _____.

Arranging the data in ascending order, _____

In the given data,

Highest value = _____ , Lowest value = _____ , Range = _____ - _____ = _____

Question: 12

Find the range of first 10 multiple of 5.

Answer:

First 10 multiple of 5 = _____

Therefore,

Highest value = _____ , Lowest value = _____ , Range = _____ - _____ = _____

Geometry

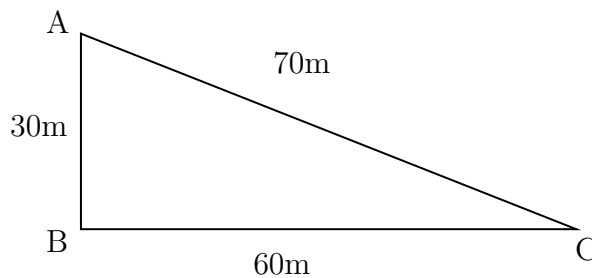
Topics to be Improved	
Sum of lengths of two sides of a triangle	Sum of two sides of a triangle
Lines of symmetry for regular polygons	Identification of lines of symmetry
Faces vertex and edges	Identification of faces, edges and vertices

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



Question: 13

Find the greatest distance to reach C from A in the given diagram.



Answer:

The sides of the given triangle are _____.

The possible way to reach point C from point A are _____ and AB then to _____

Side AC = _____

Side AB + BC = _____ + _____ = _____

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

Question: 14

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

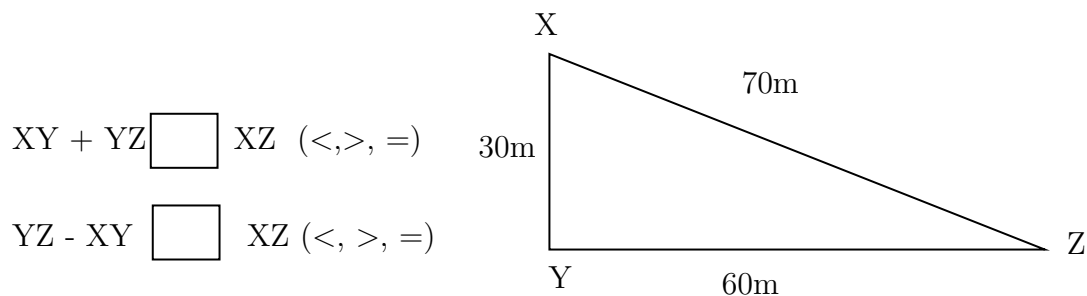
Answer:

There are _____ sides in a triangle.

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

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

Example: In triangle XYZ,



Question: 15

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

Answer:

- 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 **Symmerty**



Question: 16

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: 17

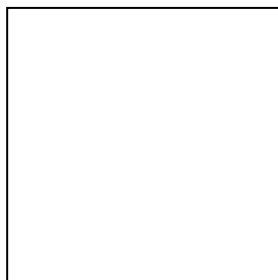
How many lines of symmetry does square have?

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: 18

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 **Basics of 3D model**



Question: 19

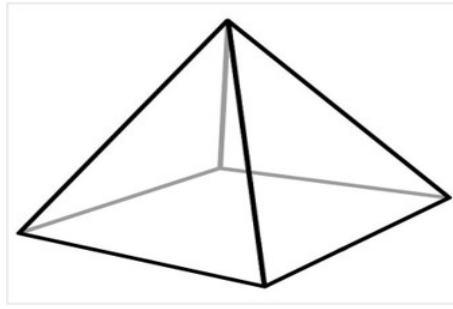
A point at which two or more lines segments meet is called _____(Vertex/ edges/ faces).

Answer:

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

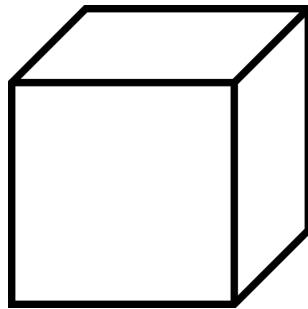
A _____is a point where two or more line segments meet(Vertex/ edges/ faces).

Mark the vertices in the diagram,



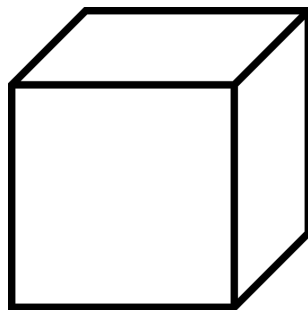
Question: 20

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.

Number system

Topics to be Improved	
Operations on rational numbers	Subtraction of rational numbers
Positive and negative rational numbers	Identification of positive rational numbers
Decimals	Multiplication and division of decimals

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



Question: 22

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

Answer:

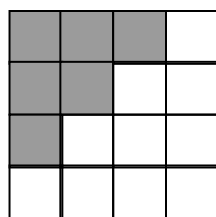
Fractions with same denominators are called _____ (like/ unlike) fractions.

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

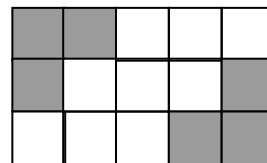
$$\frac{-3}{3} + \frac{1}{3} = \frac{\quad}{3} =$$

Question: 23

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 = _____.

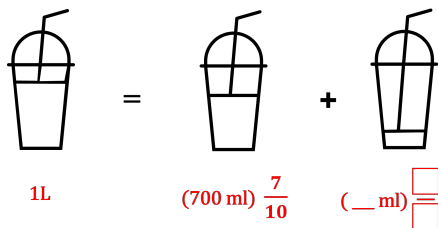
Number of shaded square in box B = _____.

Shaded part of box B in fraction = _____.

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

Question: 24

Find the missing values in the given figure.



Answer:

One litre = _____ ml

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

Given: $1 = \frac{7}{10} + \underline{\hspace{2cm}}$

Transposing $\frac{7}{10}$ to other sides, $1 - \frac{7}{10} = \underline{\hspace{2cm}}$

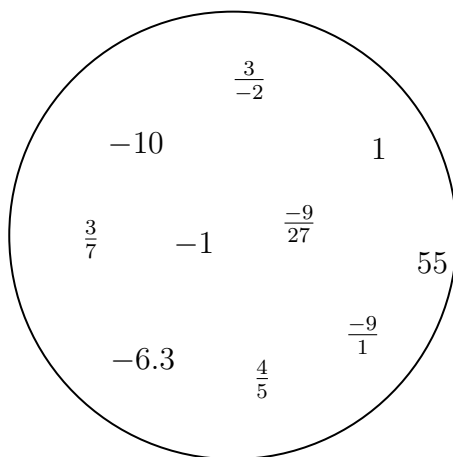
Therefore, result is _____.

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



Question: 25

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: 26

$-\frac{3}{-4}$ 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: 27

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: _____

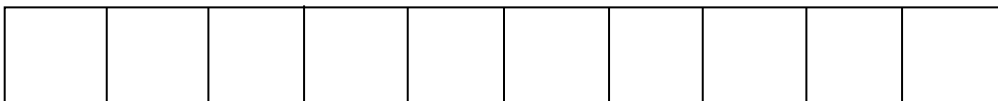
Positive rational number \times Negative rational number = _____ \times _____ = _____ and this is _____ rational number

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



Question: 28

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: 29

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: 30

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 _____ = _____

Comparing Quantities

Topics to be Improved	
Simple interest	Calculation of simple interest
Percentage	Basic of percentage

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



Question: 31

Match the following.

Column A	
i	Principle(P)
ii	Amount (A)
iii	Rate (R)
iv	Time period (T)

Column B	
a	Interest calculated based on this
b	Total sum you borrow
c	Number of years
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: 32

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: 33

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

Answer:

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

$$\text{Rate of interest} = \frac{\text{_____} \times 100}{\text{Principal} \times \text{_____}}$$

Substituting values in the formula,

$$\text{Rate of interest} = \frac{\text{_____} \times 100}{\text{Principal} \times \text{_____}}$$

Rate of interest = _____

Therefore, the rate of interest is _____ %

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



Question: 34

2% can be written as

Answer:

Percentages are numerators of fractions with denominator _____

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

Question: 35

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.

$$75\% \text{ can be written in fraction form } \frac{\boxed{}}{\boxed{}}$$

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

Question: 36

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

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

Algebra

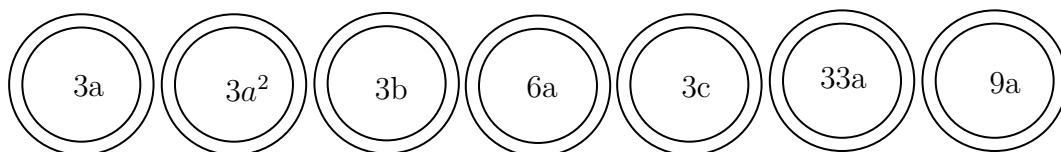
Topics to be Improved	
Addition and subtraction of algebraic expressions	Like terms and Unlike terms
Monomials, binomials, trinomials and polynomials	Types of algebraic expression
Basics of simple equation	Solving of simple equation
subtraction of algebraic expressions	subtraction of algebraic expressions

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



Question: 37

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: 38

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

Answer:

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

$$7r^2 + 1 - 2 = (7 - 2)r^2 = 5r^2$$

Question: 39

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 **Types of expression**



Question: 40

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: 41

Classify the following expression into monomial, binomial and polynomial.

- $7m + n + 2$
- $8x^2 + 0$
- $7xy + 4m$

Answer:

- The terms in expression $8x^2 + 0$ are _____.
 Here, expression has _____ term and it is a _____.
- 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: 42

$5m^2 + m + 0$ 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: 43

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: 44

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: 45

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

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

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

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

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

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

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: 46

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: 47

	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: 48

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.

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

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