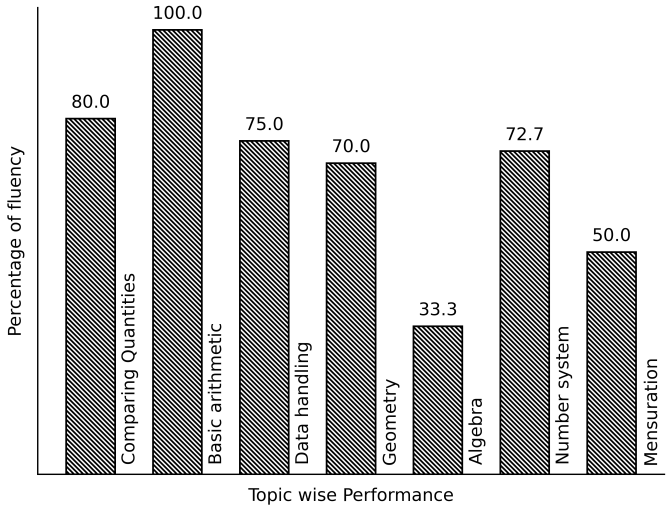
LaPIS Diagnostic Test Workbook - Mathematics

Name	**:**	**Kavilan S**
Class	**:**	**7**
Section	**:**	**C**
School	**:**	**AKV Public School**
Login ID	**:**	**AKV173**

Kavilan S's Performance Report



Score: 27/40 **Percentage: 67.5%**

Kavilan 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

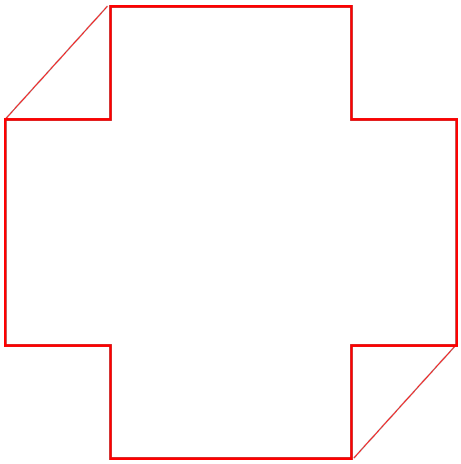
Mensuration

Topics to be Improved	
Perimeter	Perimeter of triangle

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

Question: 1 .....

Highlight the perimeter in the given image.

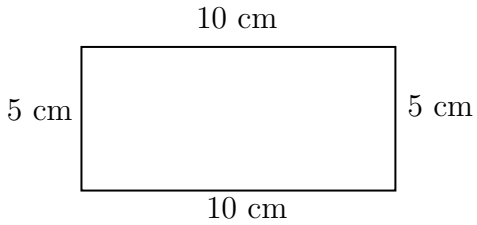


Answer:

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

Question: 2 .....

Find the perimeter of the given figure.



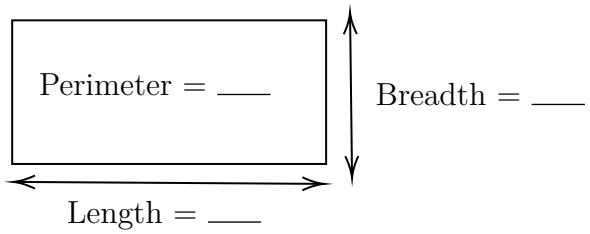
Answer:

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

Question: 3 .....

Find the length of the rectangular floor if its perimeter is 60 ft and breadth is 3 ft.

Answer:



Shape of the floor is _____ and its perimeter formula is _____.
Given:

floor perimeter = _____, and breadth = _____.

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

Therefore, length of the rectangular floor is _____.

Data handling

Topics to be Improved	
Chance of probability	Basis of probability

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)

Geometry

Topics to be Improved	
Right angle triangle and pythagoras property	Basics of Pythagoras property
Transversal angle made by transversal	Basics of Transversal angle
Faces vertex and edges	Idenfication of faces,edges and vertices

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

Question: 7 .....

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

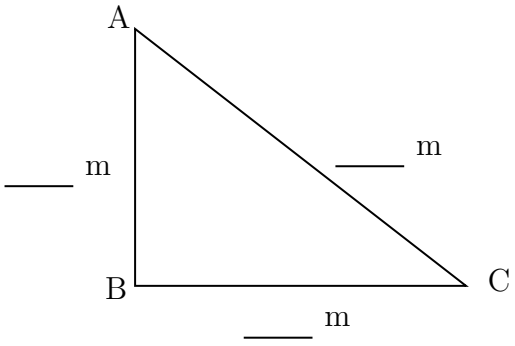
Answer:

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: 8 .....

Find the hypotenuse of the triangle ABC if base is 12 m and altitude is 5 m.

Answer:



Pythagoras theorem states that square of the _____ = sum of the squares of its _____.
Given: Base = _____, Altitude = _____,
Base and altitude are _____ (hypotenuse/ legs) of the triangle.

By Pythagoras theorem, (_____)^2 = (_____)^2 + (_____)^2

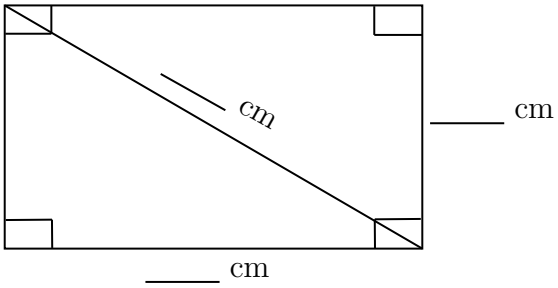
_____ = _____ + _____

Therefore, hypotenuse of the triangle is _____.

Question: 9 .....

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

Answer:



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

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

Given: breadth = _____, length of diagonal = _____

By Pythagoras theorem, (_____)^2 = (_____)^2 + (_____)^2

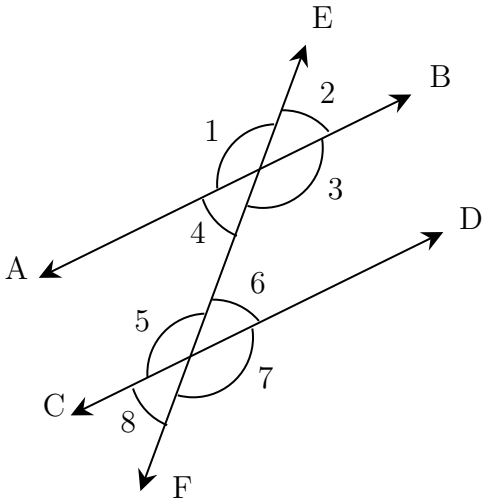
_____ = _____ + _____

Therefore, diagonal of the rectangle is _____

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

Question: 10 .....

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

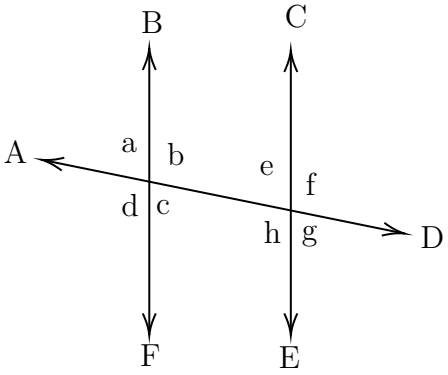


Answer:

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, ∠1 and ∠7 are _____

Question: 11 .....

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



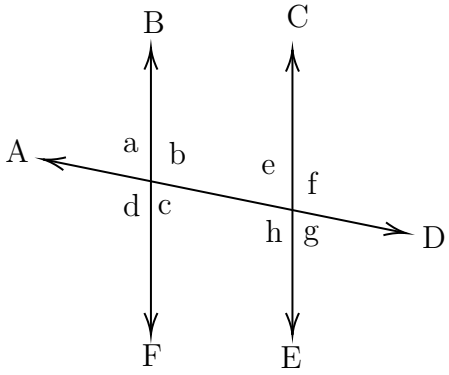
Answer:

A line that intersects two or more lines at distinct points is called a _____ (transversal/ Intersecting line).
In a given diagram, _____ is a transversal line. (BF/AD/CE)

Alternate angles	Corresponding angles
∠a and ∠g , ∠b and ∠h,	∠a and ∠e, ∠b and ∠f,

Question: 12 .....

Find ∠e and ∠g if ∠a = 30°.



Answer:

When parallel lines cut by a transversal,

(i) Alternate angles are _____ (equal / not equal).

(ii) Corresponding angles are _____ (equal / not equal).

Here, alternate angle of ∠a is _____ and its value is _____.
Corresponding angle of ∠a is _____ and its value is _____.

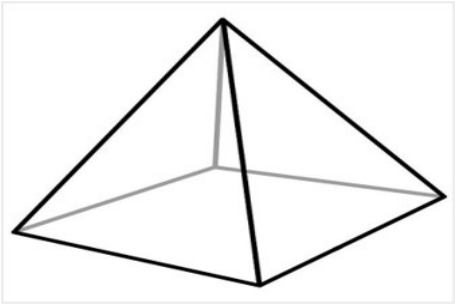
Hi, here in this video you will learn **Basics of 3D model**

Question: 13 .....

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

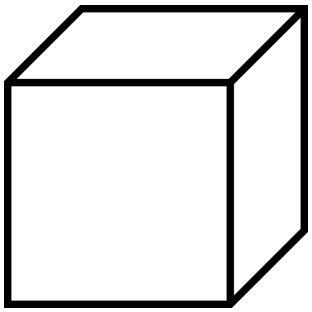
Answer:

_____ 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,



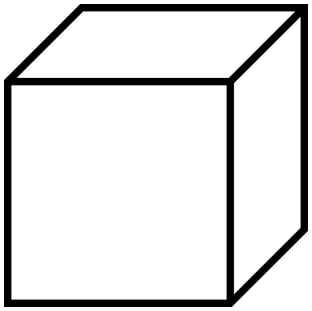
Question: 14 .....

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: 15 .....

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	
Exponents	Solving exponents
Decimals	Multiplication and division of decimals
Positive and negative rational numbers	Identification of positive rational numbers

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

Question: 16 .....

Find the exponential form of 1000.

Answer:

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

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

Question: 17 .....

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: 18 .....

(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 **Basics of decimals**

Question: 19 .....

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: 20 .....

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: 21 .....

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

Answer:

One box contains _____ chocolates. The cost of one box is _____
Then cost of one chocolate = _____ ÷ _____= _____

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

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

$$\frac{2010}{15} = \text{\_\_\_\_\_}$$

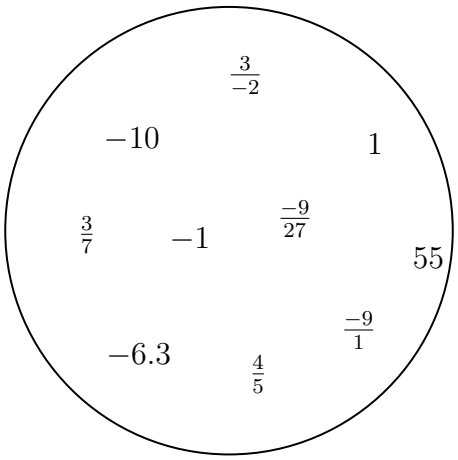
(iii) Place the decimal point after _____ digits counting from the right in the quotient after division.

Then the cost of one chocolate is _____ .
The cost of 15 chocolates = cost of one chocolate × _____ = _____ x _____ = _____

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

Question: 22 .....

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: 23 .....

$\frac{-3}{-4}$ 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: 24 .....

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 × Negative rational number = _____ × _____ = _____ and this is _____ rational number

Comparing Quantities

Topics to be Improved	
Equivalent ratios	Basic of proportion

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

Question: 25 .....

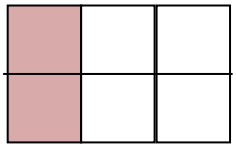
If a:b and c:d are equivalent ratio, then it can be expressed as _____

Answer:

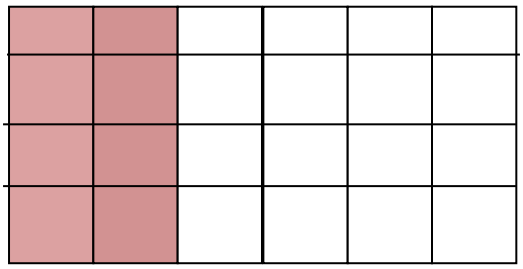
A _____ (proportion / ratio) is used to express _____ (one/two) equivalent ratios.
Standard form to express proportion is _____.

Question: 26 .....

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



A



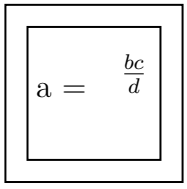
B

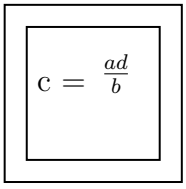
Answer:

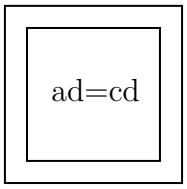
Shaded part of A = _____, Unshaded part of A = _____.
Ratio of shaded to unshaded parts of A is _____. Fractional form = _____.
Shaded part of B = _____ ,
Unshaded part of B = _____.
Ratio of shaded to unshaded parts of B is _____.
Fractional form = _____.
Fraction form of A _____ (equal/ not equal) to Fraction form of B.

Question: 27 .....

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







Answer:

Two equivalent ratio which are proportion, it can be written as a : b :: c : d
or _____ = _____ (in fraction) .
First and fourth term are called _____ and second and third term are called _____.
In proportion, product of extreme terms is _____ (equal to/ not equal to) product of middle terms.
Therefore, a × d = _____,
then a = _____ and c = _____

Algebra

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

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

Question: 28 .....

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

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

Answer:

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

Terms	Constants	Variables

Question: 29 .....

Mark the expression that contains two terms.

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

Answer:

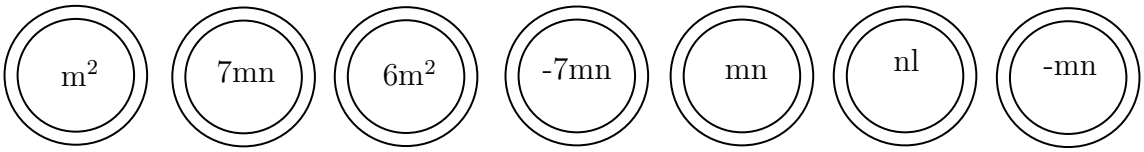
The terms in the expression $3x + 5$ is/are _____.

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

Question: 30 .....

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

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

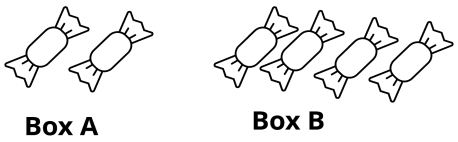


Answer:

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

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

Question: 31 .....



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

Answer:

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

Question: 32 .....

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

Answer:

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

The equation is _____

Question: 33 .....

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

Answer:

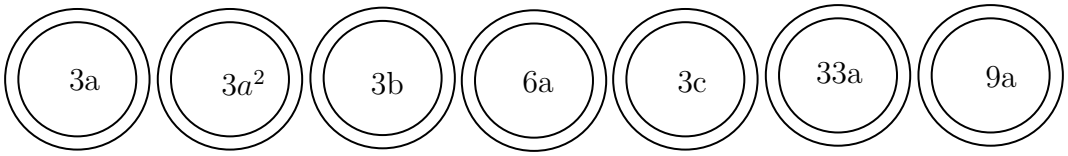
Sum of $2a$ and 9 = _____
Product of a and 2 = _____
Add 9 to the product of a and 2 = _____

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

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

Question: 34 .....

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: 35 .....

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

Answer:

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

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

Question: 36 .....

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: 37 .....

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: 38 .....

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: 39 .....

$5m^2 + m + 0$ 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.