LaPIS Diagnostic Test Workbook - Mathematics

Name : Deepika K

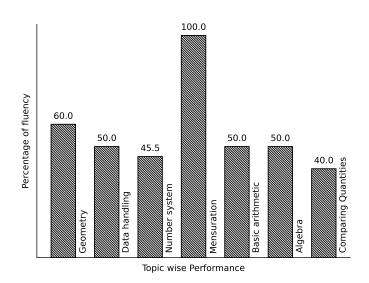
Class: 7

Section : A

School : AKV Public School

Login ID : AKV122

Deepika K's Performance Report



Score: 21/40 Percentage: 52.5%

Deepika K's Study Planner

Date	Topics Planned	Q. Numbers	Teacher Remark	Teacher Sign	Parent Sign
		Teacher's Fe	edback to Student		
	Class Teacher S	Signature	Princi	ipal Signature	

Basic arithmetic

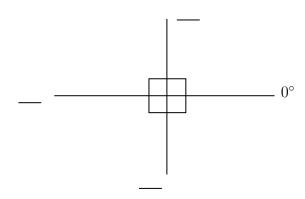
Topics to be Improved		
Types of angles	Identification of types of angles	

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



Question: 1

Find the angles.



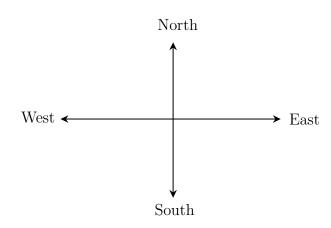
Answer:

The angle ranges from ____° to ____°.

The angle perpendicular to 0° is $___{\circ}$.

The straight line measures $___^{\circ}$.

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	Basis of probability		
Arithmetic mean, mode and median	Mean, Median and 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 im	possible events
(i) The sun rises in the west.	
(ii) Water is colourless.	
(iii) Clock rotates in clock wis	e direction.
(iv) Ball is square in shape.	
Answer:	
Events that cannot occur are ca Here, The sun rises in the west event.	alled (sure/ impossible) events. alled (sure/ impossible) events. is event. Water is colourless is ction is event. Ball is square in shape is
Question: 5	
Probability of sure events is	(greater / smaller) than probability of impossible events
Answer:	
	= $(0/1/ any number).$ $=$ $(0/1/ any number).$ event $=$ Probability of impossible event.
<i>Question:</i> 6	
Raju has pencil, an eraser, a se probability of getting a pen from	ale, sharpener, colour pencil and protractor in his box. What is the m his box.

 $\underline{Answer:}$

Does Raju have	pen in his box, r of getting pen from h	(Yes/ N	Vo).	0/1)		
Hi, here in th	nis video you will le	earn M	ean, Me	${ m edian,\ N}$	Iode	
Question: 7						
Find the mode o	f the following data: 5	15, 23,	5, 32, 44,	72, 55, 6, 3	8, 5, 65, 45,	67, 24, 19 and 98.
Answer:						
Arranging the da	ber that occursata in ascending order: occurs most number of					
Question: 8						
	ntains median of the gi	ven data	3. 5. 6. 2.	7. 9. 6. 4	and 1	
ascending or dese Arrange the give	(first/cencending order. n data in ascending or the given data is	der :				
	the given data is			s the		oi a data.
$\underline{Question: \ 9}$					• • • • • • • • • • •	
	Marks scored	100	90	80	70	
	Number of students	4	5	2	1	
Mean =	, Median = ar	nd Mode	=			
Answer:						
$Mean = \frac{1}{m}$	of all observation umber of observation					
Therefore, mean Arrange the data	observation = = a in ascending order :, mode				tion =	

Geometry

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

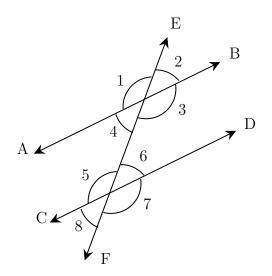
Hi, here in this video you will learn Basics of Transversal angle



Question: 10

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

.....



Answer:

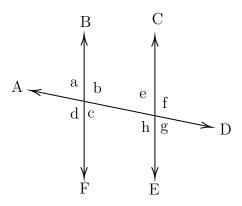
A line that intersects two or more lines at distinct points is called a _____ (transversal/Intersecting line).

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, $\angle 1$ and $\angle 7$ are _____

Question: 11

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



Answer:

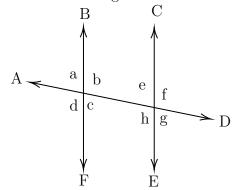
A line that intersects two or more lines at distinct points is called a _____ (transversal/Intersecting line).

In a given diagram, _____ is a transversal line. (BF/AD/CE)

Alternate angles	Corresponding angles
\angle a and \angle g , \angle b and \angle h,	\angle a and \angle e, \angle b and \angle f,

Question: 12

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 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).

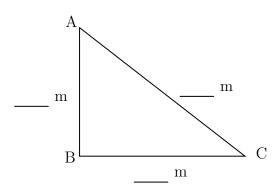
Pythagoras theorem states that _____

.....

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

 $Given: Base = \underline{\hspace{1cm}}, Altitude = \underline{\hspace{1cm}},$

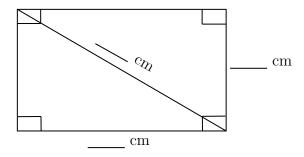
Base and altitude are _____ (hypotenuse/ legs) of the triangle.

Therefore, hypotenuse of the triangle is _____.

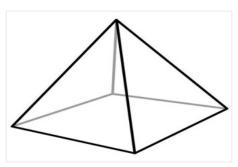
Question: 15

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

Answer:

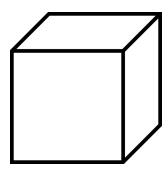


Pythagoras theorem states that square on the = sum of the squares on
Is Pythagoras theorem applicable in rectangle? (yes/ no). Given: breadth =, length of diagonal =
By Pythagoras theorem, $()^2 = ()^2 + ()^2$ $= +)^2$
Therefore, diagonal of the rectangle is
Hi, here in this video you will learn Basics of 3D model
<i>Question:</i> 16
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,



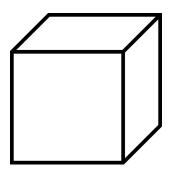
Question: 17

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



$\underline{Answer:}$

Mark the vertex, edges and faces in a cube.



Count the number	of vertex,	edges and	d faces	in a c	cube.	
Cube have	vertices,	e	edges ar	nd		faces.

Question: 18

How many vertices, edges and faces does dices have?



Answer:

The shape of d	ice is	·	
Dices have	vertices,	$_$ edges and $_$	faces.

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

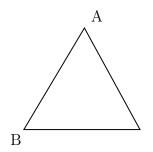
С



Question: 19

Sum of the angles of triangle is ______.

Answer:



$$\angle A + \angle B + \angle C = \underline{\hspace{1cm}}$$

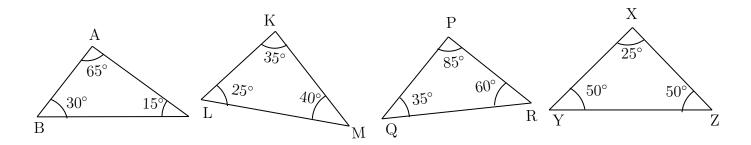
Angle sum formula = $(n-2) \times 180^{\circ}$, n = number of sides

Triangle has _____ sides.

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

Question: 20

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 $= \angle A + \angle B + \angle C = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

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: 21

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 $x = \underline{\hspace{1cm}}$

The angles of the triangle are _____

Number system

Topics to be Improved				
Operations on rational numbers	Division of rational numbers, Subtraction of rational numbers			
Positive and negative rational numbers	Identification of positive rational numbers			
Integers	Basics of integers			
Introduction to rational numbers	Basics of rational numbers			
Fractions	Division of fraction			

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



Question: 22

Fill in the boxes to make the given expression correct.

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

Answer:

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

Here, dividend = _____ and divisor = ____

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

Question: 23

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 = _____.

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

Question: 24

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

Answer:

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

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

Transposing 8/3 to RHS,

$$\frac{\square}{16} = 2 \square \frac{8}{3}$$

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

$$\frac{\square}{16} = \frac{\square}{\square}$$

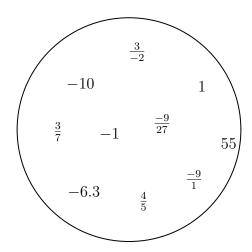
Transposing 16 to other side, the result is _____

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



Question: 25

Segregate positive and negative rational number.



Answer:

- If 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 $\frac{-3}{-4} = \square$ 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: _____

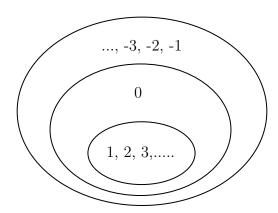
Positive rational number × Negative rational number = ____ × ___ = ___ and this is ____ rational number

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



Question: 28

Highlight the ring that contains whole numbers.



Answer:

The numbers inside the inner ring $(1, 2, 3, \ldots)$ are _____ numbers. The numbers inside the middle ring are _____ numbers.

The numbers inside the outer ring are negative numbers, positive numbers and zero and they are called as ______.

Question: 29

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



Negative numbers



......

......

......

Naturals numbers

Answer:

Whole number consists of 0,1,2,3,4,.... Negative number consists of ______. Natural numbers consists of ______. Integers consists of ______.

Question: 30

State whether the statement is true or false.

Every positive number is an integer.

Answer:

Positive numbers are ______. Integers consists of _____.

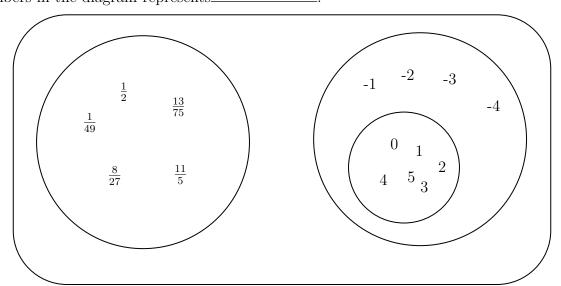
Therefore, positive numbers are ______ (in/not in) integers.

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



Question: 31

The numbers in the diagram represents_____.



Answer:

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

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

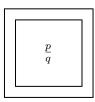
The combination of these circles are called ______.

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

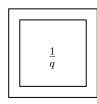
Combination of all three circles are called as ______ numbers.

Question: 32

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: 33

Circle the number which is not a rational number.

$$\frac{-5}{-8}$$

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

$$\frac{12}{-6}$$

$$\frac{4}{0}$$

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 **Division on fractions**



Question: 34

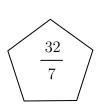
Find the shape which contains the improper fraction of $5\frac{2}{7}$.







......



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, $\frac{(\text{Whole} \times \underline{\hspace{1cm}}) + \text{Numerator}}{\text{Denominator}}$

$$5\frac{2}{7} = \frac{(--- \times ---) + ----}{7} = \frac{\square}{\square}$$

Question: 35

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 = $___$.

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

Question: 36

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

Answer:

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

$$\frac{12}{40} \div \underline{\qquad} = \frac{12}{40} \times \underline{\qquad} = \underline{\qquad}$$

Then the answer is _____

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



Question: 37

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

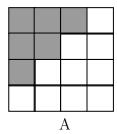
Answer:

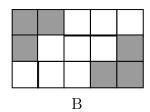
Fractions with same denominators are called ______ (like/ unlike) fractions. Fraction can be added only if they are ______ (like/ unlike) fractions.

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

Question: 38

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





Answer:

Total number of square in box $A = \underline{\hspace{1cm}}$.

Number of shaded square in box $A = \underline{\hspace{1cm}}$

Shaded part of box A in fraction = _____

Total number of square in box $B = \underline{\hspace{1cm}}$.

Number of shaded square in box $B = \underline{\hspace{1cm}}$.

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.

$$= \bigoplus_{\text{1L}} + \bigoplus_{\text{(700 ml)}} \frac{7}{7} \quad \text{(ml)}$$

......

Answer:

Given: $1 = \frac{7}{10} + \underline{\hspace{1cm}}$ Transposing $\frac{7}{10}$ to other sides, $1 = \underline{\hspace{1cm}}$ Therefore, result is $\underline{\hspace{1cm}}$.

Comparing Quantities

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

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



Question: 40

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					
С	Number of years					
d	Total sum with interest					

ormula for calculating simple interest $=$	
nterest calculated based on	
otal sum you borrow is known as	
umber of years is Total sum with interest is	
Question: 41	
ara deposited Rs.1200 in a bank. After three years, she received Rs.1320. Find the interest sharned.	ıе

Answer:

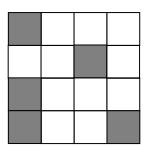
Answer:

Given:			
$Amount = \underline{\hspace{1cm}}$	$_{}$, Principle = $_{}$	$_{}$, Time period = $_{}$	
If Amount and princi	ple is given, then formula for	calculating interest is	
$Interest = \underline{\hspace{1cm}}$	=		
Question: 12			

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

Answer:

Interest =	, Time period	=	, $Principal = $	
	Principal x			
Substituting values Rate of interest =	= x 100 Principal x			
Rate of interest $= 1$		%		
Hi, here in this percentage	s video you will le	arn Convertin		
Question: 43				
Complete the box i	in the given equation.			
$5\% = \frac{5}{\Box}$				
Answer:				
Percentage are the	fraction with the denor	minator		
	Therefore, 5% car	n be expressed as _		
Question: 44				
Mark the correct co	onversion form of fracti	ion $\frac{1}{2}$ to percentage	e.	
(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%			
$\underline{Answer:}$				
100 or	into percentage, the v (multiply / divide conversion form is	e) the fraction with		/ numerator)should be
Question: 45				
Find the percentage	e of shaded part of squ	are.		



Answer:				
The square shape is divided intoNumber of shaded part of square is	_			
Shaded part of square in fraction is				
To Convert into percentag	ge ,	x 100		
Hi, here in this video you will learn l				
Question: 46				• • • • • • • • • • • • • • • • • • • •
If a:b and c:d are equivalent ratio, then it can	n be expressed as			
Answer:				
A (proportion / ratio) is used to exp Standard form to express proportion is	*	e/two) equi	valent rati	os.
Question: 47				
Find the ratio of shaded part to unshaded pa				valent?
A				
		В		

Shaded part of $A = \underline{\hspace{1cm}}$, Unshaded part of $A = \underline{\hspace{1cm}}$.
Ratio of shaded to unshaded parts of A is Fractional form =
Shaded part of $B = \underline{\hspace{1cm}}$,
Unshaded part of $B = \underline{\hspace{1cm}}$.
Ratio of shaded to unshaded parts of B is
Fractional form =
Fraction form of A (equal/ not equal) to Fraction form of B.
(equal) to Haction form of B.
Question: 48
If a: b:: c: d is proportion, shade the correct expression
$\boxed{ a = \frac{bc}{d} } \boxed{ c = \frac{ad}{b} } \boxed{ ad=cd}$
Answer:
Two equivalent ratio which are proportion, it can be written as a : b :: c : d
or $\underline{\hspace{1cm}} = \underline{\hspace{1cm}}$ (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, $a \times d = \underline{\hspace{1cm}}$,
then $a = \underline{\hspace{1cm}}$ and $c = \underline{\hspace{1cm}}$

Algebra

Topics to be Improved					
Basics of simple equation	Solving of simple equation				
subtraction of algebraic 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	Solving	an	equation
-----	---------	------	-------	-----	------	-------	---------	----	----------



Question:	10
Question:	49

If ©=5, then 5 © +5 =

Answer:

The value of the given smiley \odot is _____.

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

Question: 50

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

.....

$$7 \Box + 3 = -4$$

Answer:

The given equation is $7 \pm 3 = -4$ Substitute the values (-2, -1, 0, 1, 2) in the circle,

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

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

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

Question: 51

Arrange the terms in the descending order when the value of x is 2. $2x 5x \times 1 x+3 2x-4 \frac{1}{2}x$

Answer:

The given expression are _____

The value of x is _____.

substituting value of $\mathbf x$

$$2x = 2 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} 2x - 4 = 2 \times \underline{\hspace{1cm}} - 4 = \underline{\hspace{1cm}}$$
 $x + 3 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$
 $5x \times 1 = 5 \times \underline{\hspace{1cm}} \times 1 = \underline{\hspace{1cm}}$

Arranging in descending order: ____, ____, ____, ____, ____.

Their respective algebraic terms are ____, ____, ____, ____, _____, _____.

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



Question: 52

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: 53

	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 $B = \underline{\hspace{1cm}}$, Number of girls in school $B = \underline{\hspace{1cm}}$.

 Total number of students in school B is $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(iii) Number of teachers more in school B than school A = Teachers in school B - Teachers in school A = $_$

Question: 54

Solve the following:

$$\begin{array}{c|c}
13x + \underline{\hspace{1cm}} \\
(+) & 12x + 10y \\
\underline{\hspace{1cm}} + 25y
\end{array}$$

$$\begin{array}{c|c}
3a - 5b \\
\hline
(-) & 5a - 7b \\
\hline
-2a - \underline{\hspace{1cm}}
\end{array}$$

.....

Answer:

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

$$\begin{array}{c|c}
13x + \underline{\hspace{1cm}} \\
(+) & 12x + 10y \\
\underline{\hspace{1cm}} + 25y
\end{array}$$

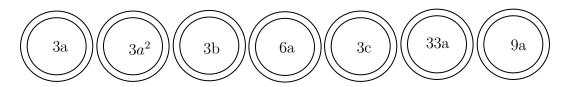
$$\begin{array}{c|c}
 3a - 5b \\
 \hline
 (-) & 5a - 7b \\
 \hline
 -2a - \underline{\hspace{1cm}}
 \end{array}$$

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



Question: 55

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: 56

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: 57				
Sam have 3a chocolates and	9y icecrean	n. Ram have 7	a chocolates	s and 5y icecream.
(i) Total chocolates Ram a	nd Sam ha	ve :		
(ii) How many icecreams S	am have m	ore than Ram	:	·
$\underline{Answer:}$				
		Chocolates	Icecream	
	Sam			
	Ram			
(ii) How many icecreams S	olate + San am have m	n's chocolates ore than Ram	:	+ =