LaPIS Diagnostic Test Workbook - Mathematics

Name : Varna R K

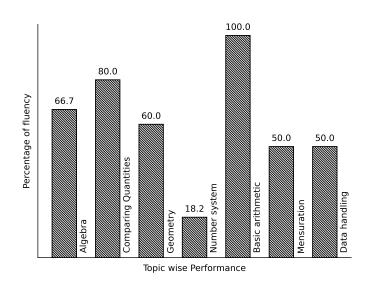
Class: 7

Section : A

School : AKV Public School

Login ID : AKV130

Varna R K's Performance Report



Score: 21/40 Percentage: 52.5%

Varna R K's Study Planner

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

Mensuration

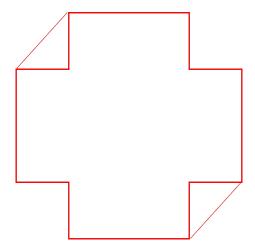
Topics to be Improved				
Perimeter	Perimeter of triangle			

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



Question: 1

Highlight the perimeter in the given image.

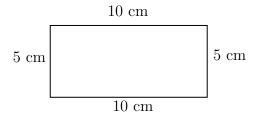


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Perimeter is the _____ (outer / inner) boundary of the shape

Question: 2

Find the perimeter of the given figure.



Answer:

Sides of the given shape = _____

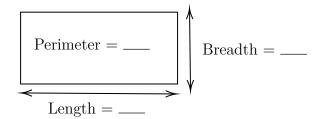
Perimeter of a shape is _____ (sum / difference) of _____ (all/ opposite) sides.

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				
Range	Finding the range			

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Hi, l	here in	this	video	you	will	learn	Basics	of	probability
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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 Events that cannot occur are called Here. The sun rises in the west is	· / - /
event.	event. White is colouriess is
Clock rotates in clock wise direction is event.	event. Ball is square in shape is
<i>Question:</i> 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 Range	
Question: 7	
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: 8	
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: 9	
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				
Related angles	Complementary angles			
Types of triangle	Basics of types of triangle (sides)			
Right angle triangle and pythagoras property	Basics of Pythagoras property			
Faces vertex and edges	Idenfication of faces, edges and vertices			

Hi, here in this video you will learn Related Angles



Question: 10

- 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: 11

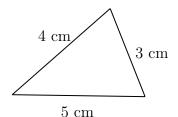
Shade the complementary angles.

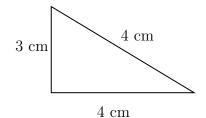
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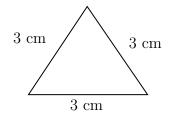
Answer:

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

$85^{\circ} + 95^{\circ} = $	and this is	(a / not a) complementary angles.
$45^{\circ} + 45^{\circ} = $	and this is	angles.
$6^{\circ} + 84^{\circ} = $	and this is	angles.
$73^{\circ} + 107^{\circ} = $	and this is	angles.
	and this is	
$90^{\circ} + 90^{\circ} = $	and this is	angles.
Question: 12		
Find the complement and	supplement of 15° an	d 90°
Answer:		
angles is equal to 90°.		applements) to other angle, when sum of the two applements) to other angle, when sum of the two
-	of $15^{\circ} = $	Complement of $90^{\circ} = \underline{\hspace{1cm}}$. Supplement of $90^{\circ} = \underline{\hspace{1cm}}$
Hi, here in this video	you will learn Ty	pes of triangle
Question: 13		
Polygon with three sides i	is called as	
Answer:		
A polygon is a simple ——Polygon with three sides in Draw a diagram of polygon	is called	curve made up of only line segments. —.
$\underline{Question: 14} \qquad \dots \dots$		
Identify the types of trian	igles.	







Triangle has _____ sides.

- Triangle with all sides are equal is called _____ triangle.
- Triangle with two sides of equal length is called ______ triangle.
- Triangle with three sides of different length is called _____ triangle.

Question:	<i>15</i>
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A park is in the shape of an isosceles triangle. If side length of the park is 30ft and 60ft, then the possible length of third side of park can be ______.

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Answer:

The shape of the park is $__$	·	
The shapes has	$_$ sides and this shape has $_$	sides of equal length.
Given: length of sides of parl	k is	
The possible length of third s	side is	

Hi,	here	in	this	video	you	will l	earn	Pythagoras	property
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Question: 16

In a right angled triangle, square of the $\underline{\hspace{1cm}}$ = sum of the squares of the legs.

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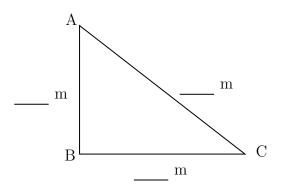
Answer:

Pythagoras theorem is only applicable for	$\underline{\hspace{1cm}}$ triangle.		
Longest side of the triangle is	(hypotenuse/ legs) and of	other two sides	are called
$\underline{\hspace{1cm}}$ (hypotenuse/ legs).			
Pythagoras theorem states that			

Question: 17

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.

By Pythagoras theorem,
$$(____)^2 = (___)^2 + (___)^2$$

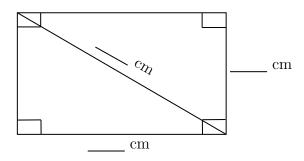
 $= __ + ___$

Therefore, hypotenuse of the triangle is _____.

Question: 18

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 = _____

Therefore, diagonal of the rectangle is _____

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



Question: 19

A point at which two or more lines segments meet is called	(Vertex/ edges/ faces).
has two end point (line/line segment/ray). A is a point where two or more line segments meet(Vertex Mark the vertices in the diagram,	x/ edges/ faces).
<i>Question: 20</i>	
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?	



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

Number system

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

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



Question: 22

Match the following based on the properties of integers

i	Closure
ii	Associative
iii	Commutative
iv	Identity

a	(5+7)+3=3+(7+5)
b	21 + 0 = 21
С	15 + 17 = 32
d	1 + 99 = 99 + 1

Answer:

(1		C.	losure	pro	per	ty	:
---	---	--	----	--------	-----	-----	----	---

The sum of integers is always _____(integer / not a integer).

Therefore, $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

From the given option _____ satisfies the closure property.

(ii) Associative property:

Rearranging the parentheses (brackets) ______ (does not/does) change the sum.

Therefore, (a + b) + c =_____.

From the given option ______ satisfies the Associative property.

(iii) Commutative property:

Changing the order of the addends _____ (does not/ does) change the sum.

Therefore, $a + b = _{---} + _{---}$

From the given option ______ satisfies the Commutative property.

(iv) Identity property: The Therefore, a +:		ny number always retu	rns same number.
From the given option _		es the Identity property	
0			
Question: 23			
Mark the operations in which	commutative propert	y holds true for any tw	o integers.
Addition	Subtraction	Multiplication	Division
$\underline{Answer:}$			
In commutative property, characteristic content conten			of the operands
For any two integers, commut			
The commutative property for The commutative property for			
$Question: 24 \dots \dots$			
Are additive identity and mul-	tiplicative identity the	e same? (Yes or No)	
$\underline{Answer:}$			
Identity property holds only fo	or, _		
The Identity property for add			
The Identity property for mul-	tiplication is	and multiplicat	tive identity is
Therefore, additive identity is	(equal / not	t equal) to multiplicative	ve identity.
Hi, here in this video yo	u will learn Expo	onents and power	
Question: 25			
Find the exponential form of 1	1000.		
Answer:			
	Rase) tells us how mar	ny times a number shou	ald be multiplied by itself
to get the desired result.	case, tells as now man	ly united a fidiliser shoc	ira be maniphea by 165en
Exponents is also called as	(Base / Power)		
	1000 can be written a	$as = 10 \times \underline{\qquad} \times \underline{\qquad}$	
10 is raise	ed to the power of	_= (10)—	
Question: 26			
<u>-</u>			

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 = ____.
 $(-2)^3$ = ____ × ___ × ___ = ___.

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Question: 27

- (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: 28

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.

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

$Question:\ 29$	
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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 = _____

Question: 30

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, $\frac{\text{(Whole} \times \underline{\hspace{1cm}}) + \text{Numerator}}{\text{Denominator}}$ Improper fraction of $2\frac{7}{4} = \underline{\hspace{1cm}}$

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

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



Question: 31

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

Answer:

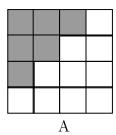
Fractions with same denominators are called ______ (like/unlike) fractions. Fraction can be added only if they are _____(like/unlike) fractions.

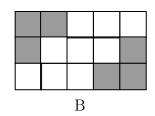
$$\frac{-3}{3} + \frac{1}{3} = \frac{-3}{3} = \frac{-3}{3}$$

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Question: 32

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





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

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

Shaded part of box A + Shaded part of box B = $___$ + $___$ = $__$

Question: 33

Find the missing values in the given figure.

Answer:

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 Law of exponents



Question: 34

 $(x)^0$ 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 = _____ $Power = \underline{\hspace{1cm}}$ Any number or variable with power zero is equal to _____ Therefore, $(x)^0$ equal to ______. Question: 35 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: 36 Circle the result of the expression $(a^0 \times b^1) + (m^1 \times n^0) + (x^0 \times y^1)$ a+n+x bmy 1 ab+mn+xy 0 anx b+m+yAnswer: Any number with power zero is equal to_____(One/Zero). Any number with power one is equal to ______ (same/ different) number. $(a^0 \times b^1) + (m^1 \times n^0) + (x^0 \times y^1) = (\underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \ddot{0} \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}})$ = ____+ ____+ _____

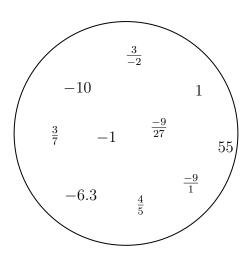
Hi, here in this video you will learn **Positive and Negative rational numbers**



Question: 37

Segregate positive and negative rational number.

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•	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: 38		
$\frac{-3}{-4}$ is a	(positive /negative / neither positi	ive nor negative) rational number.

Answer:

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

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

Question: 39

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

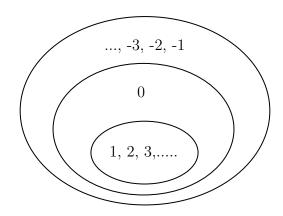
Hi, here in this video you will learn **Basics of integers**



Question: 40

Highlight the ring that contains whole numbers.

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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: 41

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

Whole numbers

Negative numbers

Integers

Naturals numbers

Answer:

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

Now, 1, 4, -10 are in ______.

Question: 42

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 **Operation on rational numbers**



Question: 43

Fill in the boxes to make the given expression correct.

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

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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: 44

Solve: $\frac{18}{7} \div 0.6$

Answer:

Fraction form of $0.6 = \underline{\hspace{1cm}}$, when any fraction is divided by a fraction, we multiply the dividend by the $\underline{\hspace{1cm}}$ (same/reciprocal) of the divisor. Here, dividend = $\underline{\hspace{1cm}}$ and divisor = $\underline{\hspace{1cm}}$.

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

Question: 45

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

Answer:

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

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

Transposing 8/3 to RHS,

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

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

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

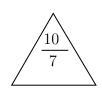
Transposing	16	to	other	eido	tho	rogult	ia	
rransposing	$T\Omega$	ιO	other	side,	ше	resun	1S	

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



Question: 46

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





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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: 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 = and =

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

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

Answer:

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

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

Then the answer is _____

Comparing Quantities

	Topics to be Improved	
Percentage	Basic of percentage	
Hi, here in this video you	will learn Basics of percentage	
Question: 49		
2% can be written as		
Answer:		
Percentages are numerators of i	fractions with denominator $2\% = \frac{\Box}{\Box}$	
Question: 50		
Arun attended the LaPIS test f Arun?	for 100 marks and got 75% marks. What is the	mark scored by
Answer:		
Arun attended LaPIS test for $_$	marks. He got	marks.
75 % can be written in fraction	n form —	
Then the mark scored by Arun	$n = \text{Total mark} \times 75\% = \underline{\qquad} \times \underline{\qquad}$	=
Question: 51		
There are 25 apples in a basket apples.	in which 10 of them are rotten. Find the perc	entage of rotten
$\underline{Answer:}$		
There are apples in a k Number of rotten apples are		

Fraction form of rotten apples in a	basket =_	
Convert it into a percent=	_ X	_% =

Algebra

Topics to be Improved			
Basics of simple equation Solving of simple equation			
subtraction of algebraic expressions	subtraction of algebraic expressions		

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



Question: 52	
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If ©=5, then 5 © +5 =

Answer:

The value of the given smiley \odot is _____. Substituting the value in the expression = $5(___) + 5 = ____ + ___ = ___$.

Question: 53

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

7 + 3 = -4

Answer:

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

7× ____+3= ____

 $7 \times$ ____+3 = ____ $7 \times$ ____+3 = ____

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

7× ____+3 = ____

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

<u>Question: 54</u>

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 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: 55

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 add	ded only if the	hey are	(Like/	Unlike)	terms.

The sum of two expressions = $_$ + $_$.

The answer is _____

Question: 56

	School A	School B
Number of boys	100b	250b
Number of girls	150g	200g
Number of teachers	25t	45t

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- (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 $A = \underline{\hspace{1cm}}$, Number of boys in school $B = \underline{\hspace{1cm}}$.

 Total number of boys in school A and school B is $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$
- (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: 57

Solve the following:

$$\begin{array}{ccc}
 & 3a - 5b \\
 & 5a - 7b \\
 & -2a - \underline{\hspace{1cm}}
\end{array}$$

Answer:

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

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

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