

LaPIS Diagnostic Test Workbook - Mathematics

Name : Likitha R

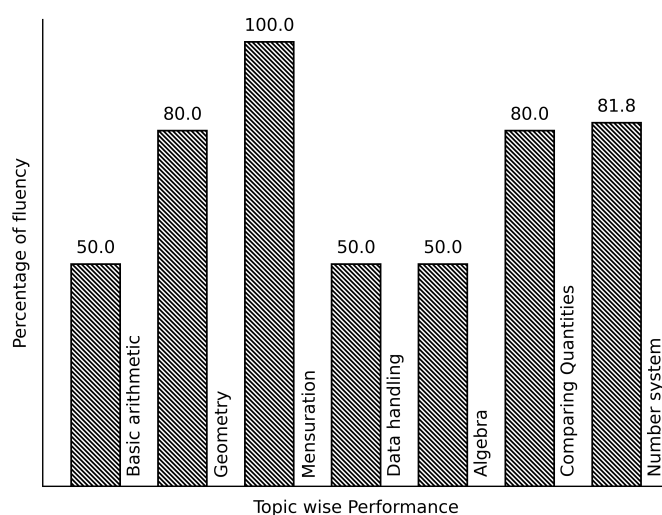
Class : 7

Section : A

School : AKV Public School

Login ID : AKV126

Likitha R's Performance Report



Score: 29/40

Percentage: 72.5%

Likitha R's Study Planner

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

Teacher's Feedback to Student

Class Teacher Signature

Principal Signature

Basic arithmetic

Topics to be Improved

LCM

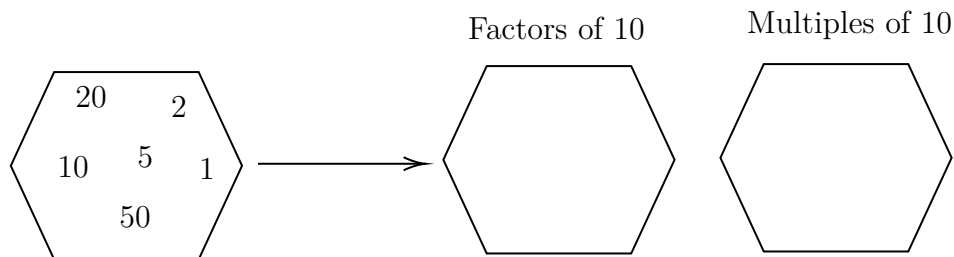
Finding LCM

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



Question: 1

Fill the hexagon with factors and multiples of 10.



Answer:

A _____ (factor/multiple) of a number is an exact divisor of that number.

The factors of 10 are

$10 \times 1 = \underline{\quad}$	$\underline{\quad} \times \underline{\quad} = 10$
$2 \times \underline{\quad} = 10$	$\underline{\quad} \times \underline{\quad} = 10$

Let's find the multiple of 10

$10 \times 1 = \underline{\quad}$	$10 \times 4 = \underline{\quad}$
$10 \times 2 = \underline{\quad}$	$10 \times 5 = \underline{\quad}$
$10 \times 3 = \underline{\quad}$	$10 \times 6 = \underline{\quad}$

Therefore, factors of 10 are _____ and multiples of 10 are _____.

Question: 2

Find the LCM of 50, 100.

Answer:

Complete the division using least common multiple.

50 , 100

The LCM of 50, 100 is $2 \times 2 \times ___ \times ___$.

Question: 3

Every number is the multiple of _____

Answer:

Let's find the first ten multiple of random numbers,

Multiple of 1 = _____

Multiple of 2 = _____

Multiple of 13 = _____

Multiple of 20 = _____

Here, _____ is the common factor of every number.

Data handling

Topics to be Improved	
Range	Finding the range
Chance of probability	Sample space in probability

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



Question: 4

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: 5

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: 6

Find the range of first 10 multiple of 5.

Answer:

First 10 multiple of 5 = _____

Therefore,

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

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



Question: 7

Which of the following contains list of all possible outcomes.

Probability

Sample space

Sure events

Impossible events

Answer:

Probability is the measure of _____ (chance /number) of an events happenings.

Sample space consists of _____ (possible/ impossible) outcomes.

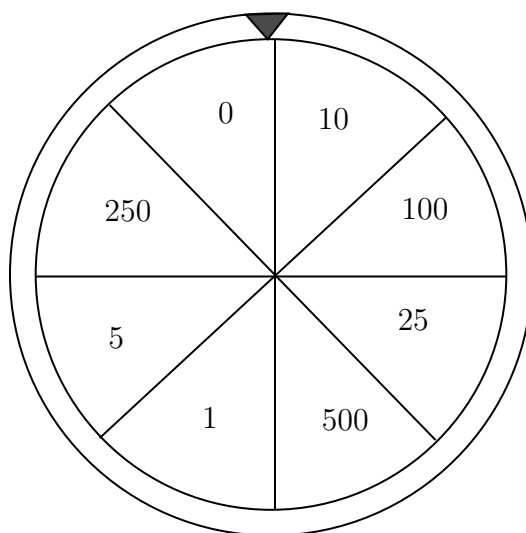
Sure events always _____ (occurs/don't occurs).

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

Therefore, _____ contains list of possible outcomes.

Question: 8

Write the possible outcomes while spinning the given wheel.



Answer:

Outcomes are _____ (possible/impossible) results of an experiment.

The possible outcomes while spinning wheel are ₹0, ₹10, _____

Question: 9

A bag contains three balls of colour blue, green and red. Write the possible outcomes if two balls are taken out.

Answer:

A bag contains _____, _____ and _____ balls.

If one of the ball is blue in colour, then other ball can be _____ or _____

If one of the ball is green in colour, then other ball can be _____ or _____.

If one of the ball is red in colour, then other ball can be _____ or _____.

Therefore, if two balls are taken out then possible outcomes are blue + _____ ,
_____ + _____, _____ + _____,

Geometry

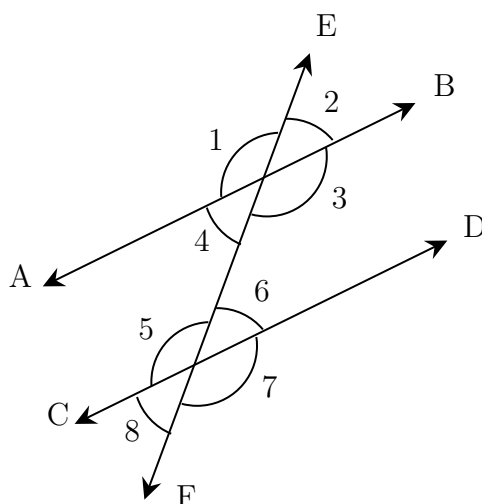
Topics to be Improved	
Transversal angle made by transversal	Basics of Transversal angle
Right angle triangle and pythagoras property	Basics of Pythagoras property

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:

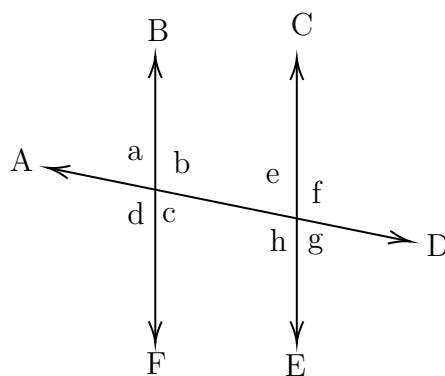
A line that intersects two or more lines at distinct points is called a _____ (transversal/ Intersecting line).

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:

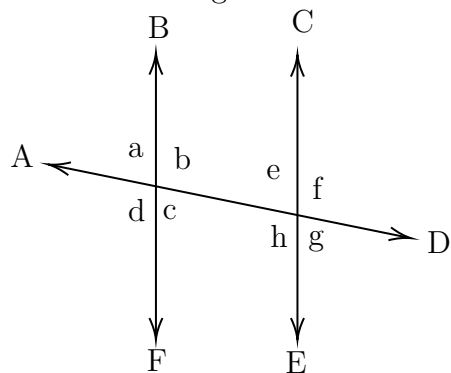
A line that intersects two or more lines at distinct points is called a _____ (transversal/Intersecting line).

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.

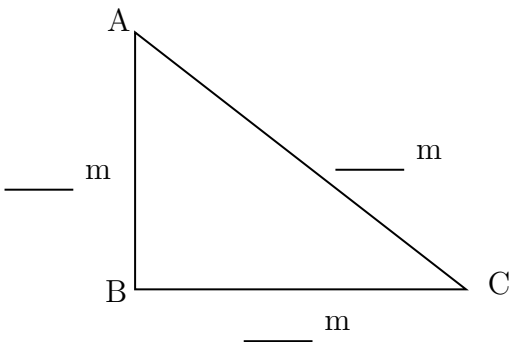
Answer:

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

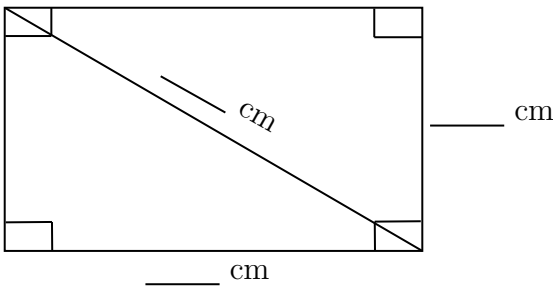
By Pythagoras theorem, $(\text{_____})^2 = (\text{_____})^2 + (\text{_____})^2$
 $\text{_____} = \text{_____} + \text{_____}$

Therefore, hypotenuse of the triangle is _____.

Question: 15

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

Answer:



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

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

Given: breadth = _____, length of diagonal = _____

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

Therefore, diagonal of the rectangle is _____

Number system

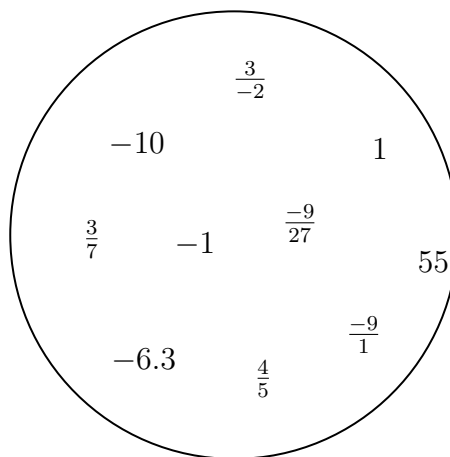
Topics to be Improved	
Positive and negative rational numbers	Identification of positive rational numbers
Operations on rational numbers	Subtraction of rational numbers

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



Question: 16

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: 17

$\frac{-3}{-4}$ 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: 18

The product of a positive rational number and a negative rational number is _____ rational number. (Positive/ Negative/ neither positive nor negative)

Answer:

Examples for positive rational numbers: _____

Examples for negative rational numbers: _____

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

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



Question: 19

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

Answer:

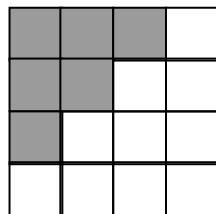
Fractions with same denominators are called _____ (like/ unlike) fractions.

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

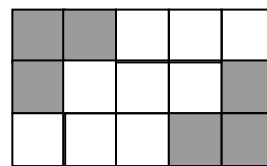
$$\frac{-3}{3} + \frac{1}{3} = \frac{-}{3} =$$

Question: 20

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

Question: 21

1L = (700 ml) $\frac{7}{10}$ (___ ml) $\frac{\square}{\square}$

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

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

Comparing Quantities

Topics to be Improved	
Percentage	Basic of percentage

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



Question: 22

2% can be written as

Answer:

Percentages are numerators of fractions with denominator _____

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

Question: 23

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

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

Question: 24

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

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



Question: 25

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: 26

	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:

- Question: 27*

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

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

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

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



Question: 28

Therefore, there are _____ terms in the expression.

Question: 29

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: 30

$5m^2 + m + 0$ 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: 31

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: 32

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: 33

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

$$2x = 2 \times \text{_____} = \text{_____}$$

$$2x - 4 = 2 \times \text{_____} - 4 = \text{_____}$$

$$x + 3 = \text{_____} = \text{_____}$$

$$\frac{1}{2}x = \frac{1}{2} \times \text{_____} = \text{_____}$$

$$5x \times 1 = 5 \times \text{_____} \times 1 = \text{_____}$$

Arranging in descending order: _____, _____, _____, _____, _____.

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