**RATU NAVULA COLLEGE**

**WORKSHEET 3 [lesson 38 -41]**

**MATHEMATICS**

**YEAR 10**

**LESSON 38**

**SUB STRAND**: PYTHAGOREAN TRIAD

**AIM**: To find the three numbers those satisfy (follow) the Pythagoras theorem.

**NOTES/ EXAMPLES**:

The three numbers and all its multiples

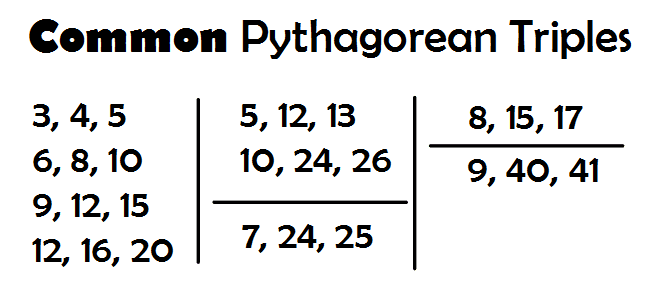
a. 3, 4, 5 and all its multiples ( …..e.tc.)

i.e.

b. 5 , 12, 13 and all its multiples(e.t.c)

i.e.

c. [ 7, 24, 25] [8, 15, 17] and [ 9, 40, 41]



**EXERCISE**

|  |  |
| --- | --- |
| Is **3, 5, 6** a Pythagorean triad. Prove it | Which of the following triangle is a Right angled and which is not a right angled  Image result for Common Pythagorean Triads |

**LESSON 39**

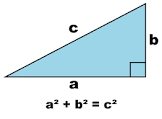
**SUB STRAND**: PYTHAGORAS THEOREM ON RIGHT AND NON RIGHT ANGLED TRIANGLE

**AIM**: To use Pythagoras theorem in order to prove that it is a right angle

**L/O**: To determine whether a triangle is aright or non-right angled

**NOTE**

**Right angled triangle**: Its follow the Pythagoras Theorem



**Non right angled Triangle**: DOES NOT FOLLOW PYTHAGORAS THEOREM

**EXAMPLE**

|  |  |
| --- | --- |
| Show that this triangle shown below is a right angled triangle | Solution  a=10 , b=24 and c=26  **Remember** c (hypotenuse)= the longest side  Since RHS = LHS , it is a Right angled triangle |

EXERCISE:

|  |
| --- |
| Find out whether this triangle shown below is a right or Non right angled triangle  http://t0.gstatic.com/images?q=tbn:ANd9GcQNfYhZUH4JDmkKQAlGFeePL2CciihnAiY5NMOG0OO_E6bqpWiyH-5t2HmsZgI&s |

**LESSON 40**

**SUB STRAND**: Trigonometric Functions

**AIM:** Naming sides and Angle of a Right angled triangle

**NOTE**

**Now we are dealing with**

**i) Right angled triangle**

**ii) Sides and angle**

Naming sides and angle

|  |  |
| --- | --- |
| Trigonometry Functions | **Hypotenuse(H)-** the side directly opposite to the right angled side  **Opposite(O)** - the side directly opposite to given angle or indicated angle Theta(  **Adjacent side(A)-** The side beside the given angle  SOHCAHTOA |

Using Trigonometry Ratio

|  |  |
| --- | --- |
| Description: http://www.skwirk.com/content/upload/images/Secondary/NSW/Year_10/Maths/trigonometry/tp1/ch1/tp1ch1_image6.jpg | https://upload.wikimedia.org/wikipedia/commons/thumb/4/4f/TrigonometryTriangle.svg/220px-TrigonometryTriangle.svg.png |

**EXAMPLES**

|  |  |
| --- | --- |
| 1.  Label the given sides of this triangle shown below  https://www.onlinemathlearning.com/image-files/clip_trig003.gif | O=3cm  A = 6cm |
| 2.  Use trigonometric ratio to fill SINE,COSINE and TANGENT  https://www.onlinemathlearning.com/image-files/clip_trig013.gif | [SOH]  [CAH]  [TOA] |

EXERCISE

|  |  |
| --- | --- |
| 1.  a) Identify the two given sides of the triangle below.    b) Determine which Trig ratio to use  c) To find the value of x complete these box | 2.  a) Identify the two given sides of the triangle below.    b)Determine which Trig ratio to use  c) To find the value of x complete these box |

**LESSON 41**

**SUB STRAND**: Using Calculator to Find the value Sine, Cos and Tangent and its unknown (

**AIM**: The find the proper way of calculating trigonometry values

**NOTE**:

A calculator can be used to find the values of the trigonometric ratios sin, cos and tan for the given angle where the angle is measured in degrees.

EXAMPLES

|  |  |
| --- | --- |
|  | **Example Two**  Find sin Ѳ = 0.66  **Solution**  Press shift Sin  Press 0.66 =(equal to) |

**EXERCISE**

|  |  |
| --- | --- |
| 1. Evaluate the following. 2 decimal places  (a) Sin 60˚  (b) | 2. Find the value of . 2 decimal places  (a)  (a) |

WORKSHEET

|  |  |
| --- | --- |
|  |  |
|  |  |
| 1. Evaluate the following. 2 decimal places  (a) Sin 350˚  (b) | 2. Find the value of . 2 decimal places  (a)  (a) |