**RATU NAVULA COLLEGE**

**WORKSHEET 4 [ lesson 42 – 44 ]**

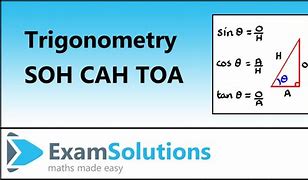
**MATHEMATICS**

**YEAR 10**

**LESSON 42**

**SUB STRAND**: Application of SOH CAH TOA I

**AIM**: Finding the unknown **Side** of a right angled triangle using SOHCAHTOA



**NOTES/ EXAMPLES**:

Since there are **two sides** and **one angle** involve in this .So given would be **1side** and **1angle**.

**EXAMPLE 1**

|  |  |
| --- | --- |
| Find the length of x  **STEP 1**  Identify the two sides | **STEP 2**  Determine the trig function to be used  SOH CAH or TOA  Since O and H are given we use SOH  **STEP 3**  Use SOH to find length of x  **x = 3.66m** (2 dp) |

**EXAMPLE 2**

|  |  |
| --- | --- |
| **STEP 1** | **STEP 2**  Determine the trig function used.  Given are  **STEP 3**  Use CAH to find the side |

**EXERCISE**

|  |  |
| --- | --- |
| Find the side  **using SOHCAHTOA** | Find the value of **z using SOHCAHTOA** |

**LESSON 43**

**SUB STRAND**: Application of SOH CAH TOA II

**AIM**: Finding the unknown **Angle** of a right angled triangle using SOHCAHTOA

**NOTES/ EXAMPLES**

Since there are **two sides** and **one angle** involve in this. To find the angle only 2 sides given

EXAMPLE 1

|  |  |
| --- | --- |
| For the right – angled triangle given,  find angle **x**    STEP 1 | STEP 2  Since O and A we will use TAN  STEP 3  Use the calculator |

EXAMPLE 2

|  |
| --- |
| Find the value of angle x  See the source image  Use calculator to find the angle in **two decimal places** |

**EXERCISE**

|  |  |
| --- | --- |
| Find the angle x? | Find the angle Z? |

**LESSON 44**

**SUB STRAND**: Word problem using SOHCAHTOA

**AIM**: Finding the unknown **Side** and **Angle** of a right angled triangle using SOHCAHTOA

**NOTES/ EXAMPLES**

Read the word problem **carefully;** sketch its diagram to guide your calculation

|  |  |
| --- | --- |
| A ladder leaning against a wall makes 75 ⁰ angle with the ground. If the ladder is 5m tall, how far is the base of the ladder from the wall of the house?  Diagram | Step 1  Identify the sides and angles given  Step 2  Which Trig function used  Step 3  Substitute values into CAH  Use calculator to find the value of x  So the length of the ladder is 1.29m. |

**EXAMPLE 2**

|  |  |
| --- | --- |
| An aeroplane flies 250 km west, but the wind blows it 60 km north    What is the compass bearing of the plane from the starting point?  **Diagram** | Note:  Bearing is in Angle. |

**EXERCISE**

1. A man is walking along a straight road. He notices the top of a tower subtending an angle *A* = 60o with the ground at the point where he is standing. If the height of the tower is *h* = 35 m, then what is the distance (in meters) of the man from the tower?

35m

Distance

**LESSON 42 – 44 WORKSHEET**

|  |
| --- |
| 1. |
| 2.  Find the length of letter x?  Image result for sohcahtoa questions |
| 3.  Find the height of the building given on the diagram below  See the source image |