MFM2PI – *Unit 5: Trigonometry – Objective #2*  Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Hypotenuse, Opposite, and Adjacent Sides** |
| * Identify the hypotenuse, opposite, and adjacent sides of a right angle triangle in relation to a reference angle |

1. **Sides of a Right Angle Triangle**

The first step towards using the primary trig ratios is to accurately identify all the sides of a right angle triangle in relation to a reference angle. The reference angle will be provided for you in the question.

*For ∠ T, label all the sides of ΔMRT*

How to Identify the Sides of a Right Triangle

*T*

1. Shade in your reference angle
2. Identify the hypotenuse – it’s the longest side  
   and opposite the 90° angle – and label it “H” and circle it

*r*

*m*

1. Identify the opposite side next – it’s the side across  
   from your reference angle – and label it “O” and circle it
2. Identify the adjacent – it’s the only side left! – and  
   and label it “A” and circle it

*t*

*R*

*M*

The importance of labelling these sides accurately becomes  
apparent if we label the same triangle again, but from  
a **different** reference angle.

*T*

*For ∠ R, label all the sides of ΔMRT*

As you can see, your labels are quite different  
depending on the reference angle!

*r*

*m*

Which side stayed the same? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*R*

*M*

Which sides changed? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*t*

1. **Practise Labelling the Sides**

*Label the sides of the following right angle triangles relative to the reference angle indicated.*

*e*

*E*

*J*

*G*

*g*

*j*

a) b) c)

*D*

*Q*

*F*

*d*

*f*

*q*

*b*

*n*

*h*

*N*

*B*

*H*

From reference angle Q,

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, &

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

From reference angle N,

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, &

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

From reference angle E,

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, &

side \_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.