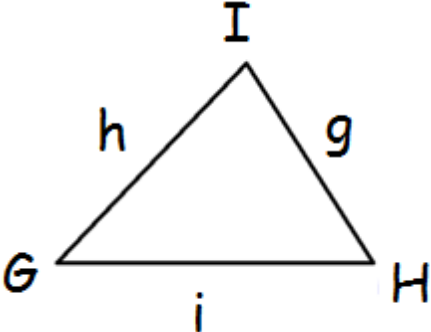


## MBF3C – Trigonometry Assignment #2

1. Fill in the blanks to complete The Sine Law for the triangle below. [4 marks]



The Sine Law

$$\frac{\quad}{\sin G} = \frac{h}{\quad} = \frac{\quad}{\quad}$$

2. Solve for the missing side. **Show your work and round answers to one decimal place!** [12 marks]

Note: ensure your calculator is set to **degrees** by evaluations  $\sin 45 \rightarrow$  answer should be 0.7071

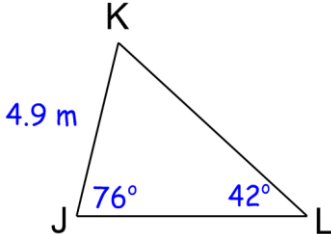
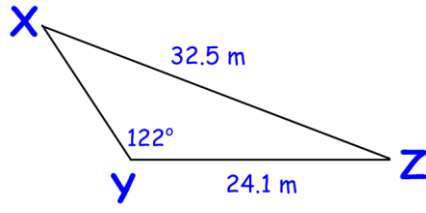
$\frac{x}{\sin 30} = \frac{17}{\sin 76}$	$\frac{a}{\sin 106} = \frac{22}{\sin 15}$	$\frac{g}{\sin 87} = \frac{7.6}{\sin 50}$
$\frac{12}{\sin 45} = \frac{k}{\sin 86}$	$\frac{98.9}{\sin 8} = \frac{m}{\sin 122}$	$\frac{37.7}{\sin 155} = \frac{b}{\sin 20}$

Name: \_\_\_\_\_

3. Solve for the missing angle. **Show your work, round answers to the nearest degree! [12 marks]**

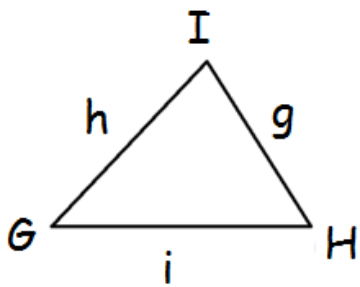
$\frac{23}{\sin T} = \frac{12}{\sin 30}$	$\frac{34}{\sin 140} = \frac{10}{\sin A}$	$\frac{28.1}{\sin 9} = \frac{87.6}{\sin W}$
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4. Solve each triangle. (Determine the values of all missing sides and angles) **SHOW YOUR WORK**

<p>8 marks</p>  <p>Triangle JKL is shown. Side JK is 4.9 m. Angle J is 76°. Angle L is 42°.</p>	<p>12 marks</p>  <p>Triangle XYZ is shown. Side XZ is 32.5 m. Side YZ is 24.1 m. Angle Y is 122°.</p>
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Name: \_\_\_\_\_

5. Fill in the blanks to complete The Cosine Law for the triangle below. [6 marks]

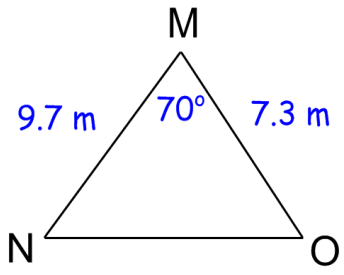
	<p>The Cosine Law</p> $g^2 = \_ + \_ - \_ \_ \_ \cos(\_)$
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6. Solve for the missing side. Show your work, round answers to one decimal place! [16 marks]

$c^2 = 9^2 + 5^2 - 2(9)(5) \cos(63)$	$b^2 = 5.5^2 + 3.8^2 - 2(5.5)(3.8) \cos(37)$
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Name: \_\_\_\_\_

7. Solve each triangle using The Cosine Law and then The Sine Law. SHOW YOUR WORK!

<p style="text-align: right;">15 marks</p>  <p>A triangle with vertices M (top), N (bottom left), and O (bottom right). Side MN is 9.7 m, side MO is 7.3 m, and the angle at vertex M is 70 degrees.</p>	<p style="text-align: right;">15 marks</p>
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