MFM2PI Unit 7: Trigonometry Day 5: Solving for an Unknown Angle – Day 2

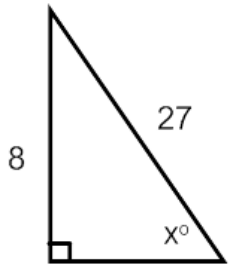
Warm-Up: Determine the value of angle X, to the nearest degree. $\sin X = \frac{11}{27}$

Recall: Steps for Solving for an Unknown **Angle**

1. Identify your reference angle
2. Label your triangle using the reference angle
3. Decide what ratio to use (using the Have, Need, Use method)
4. Inverse function ($\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$)
5. Conclude

Example 1: For the following triangles, identify the trig ratio to use, write the equation and solve it to one decimal place using $\sin^{-1}$ $\cos^{-1}$ $\tan^{-1}$ the inverse trig buttons on your calculator.

a)



Have:

Have:

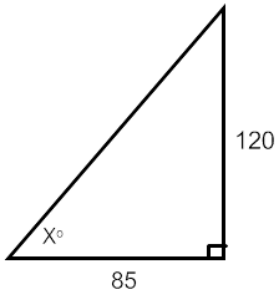
Need:

Need:

Use:

Use:

b)



Example 2: The Canadian Standards Association states that the angle between a ladder and the ground must be between 70 and 80 for safety. A 12m ladder is leaning against a building so that it reaches a height of 11.5m. Is this ladder positioned safely according to the Canadian Standards Association? Explain. (put the solution on the back of this paper)