Are there any Homework Questions you would like to see on the board?

READ p. 308 **AND**
pp. 309-311 # 1 – 10, 12, 13 **AND**
READ p. 313

6.7

Correct Unit 4 Summative!

Today's Learning Goal(s):

By the end of the class, I will be able to master the concepts presented in this unit.

The learning goals for this unit were:

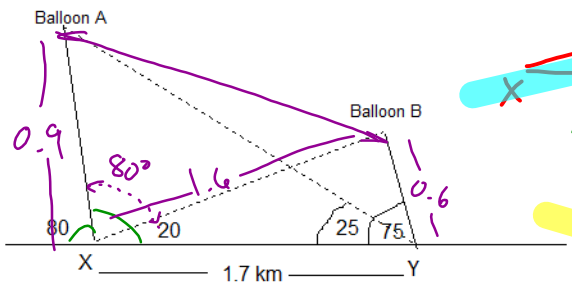
5.0 Identify the opposite, adjacent and hypotenuse side of a right triangle relative to a given angle.
5.1 Use primary trig ratios to solve real-life problems.
5.2 Solve real-life problems by using combinations of primary trig ratios.
5.3 Use the sine law to solve real-life problems.
5.4 Use the cosine law to solve real-life problems.
5.5 Solve problems involving the primary trig ratios and the sine and cosine laws.

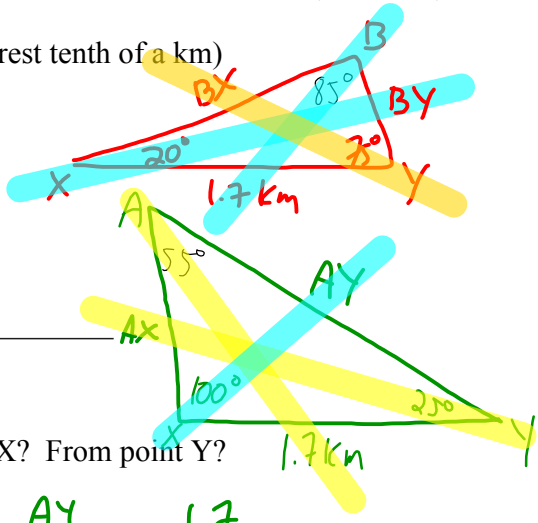
Today's Homework:

p. 314 # 1 – 10
p. 316 # 1 – 8

Let's finish Ex.5 from last day:

Ex. 5: Two observers standing at points X and Y are 1.7 km apart.
Each person measures angles of elevation to two balloons, A and B, flying overhead as shown.
(Round your answers to the nearest tenth of a km)





a) How far is balloon A from point X? From point Y?

$\frac{AX}{\sin 25^\circ} = \frac{1.7}{\sin 55^\circ}$

$AX = \sin 25^\circ \times \frac{1.7}{\sin 55^\circ}$

$\doteq 0.87$

$= 0.9$ km

$\therefore$ balloon A is 0.9 km from X

$\frac{AY}{\sin 100^\circ} = \frac{1.7}{\sin 55^\circ}$

$AY = \sin 100^\circ \times \frac{1.7}{\sin 55^\circ}$

$\doteq 2.04$

$\doteq 2.0$ km

$\therefore$ balloon A is 2.0 km from Y

b) How far is balloon B from point X? From point Y?

$\frac{BX}{\sin 75^\circ} = \frac{1.7}{\sin 85^\circ}$

$BX = \sin 75^\circ \times \frac{1.7}{\sin 85^\circ}$

$\doteq 1.64$

$\doteq 1.6$ km

$\therefore$ balloon B is 1.6 km from X

$\frac{BY}{\sin 20^\circ} = \frac{1.7}{\sin 85^\circ}$

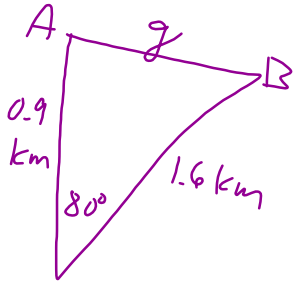
$BY = \sin 20^\circ \times \frac{1.7}{\sin 85^\circ}$

$\doteq 0.58$

$\doteq 0.6$ km

$\therefore$ balloon B is 0.6 km from Y

c) How far apart are balloons A and B?



$g^2 = 0.9^2 + 1.6^2 - 2(0.9)(1.6)\cos 80^\circ$

$\doteq 2.86$

$g \doteq \sqrt{2.86}$

$\doteq 1.69$

$\doteq 1.7$ km

$\therefore$ balloons A and B are 1.69 km apart

CHAPTER REVIEW

For right triangles:

Use the primary trig **RATIOS**!

This means SOH CAH TOA

Although both the Sine **Law** and the Cosine **Law** apply to all triangles, we generally only use them with non-right triangles.
This is because when given a right triangle, SOH CAH TOA is faster.

Use the Sine Law if you are given:

-any 2 angles and 1 side

$$\frac{a}{\sin A}=\frac{b}{\sin B}=\frac{c}{\sin C}$$

-2 sides, and the angle opposite one of the given sides

$$\frac{\sin A}{a}=\frac{\sin B}{b}=\frac{\sin C}{c}$$

Use the Cosine Law if you are given:

-2 sides and the contained angle (SAS)

$$a^2=b^2+c^2-2bc\cos A$$

-all 3 sides (SSS) and no angles

$$\cos A=\frac{b^2+c^2-a^2}{2bc}$$

Memorize all formulas needed.
Review Quiz questions, correct solutions, and PROPER FORM.
Practice with **YOUR** calculator.
Understand how to round properly:
[lengths to 2 decimals places, and angles to 1 decimal place]

Application questions
Sketch a diagram
(if it's a right triangle, label the sides: hypotenuse, opposite, adjacent)
Understand the reference point, i.e. the surveyor's eye level

Know the difference between the angle of elevation
and angle of depression and how to label it properly