

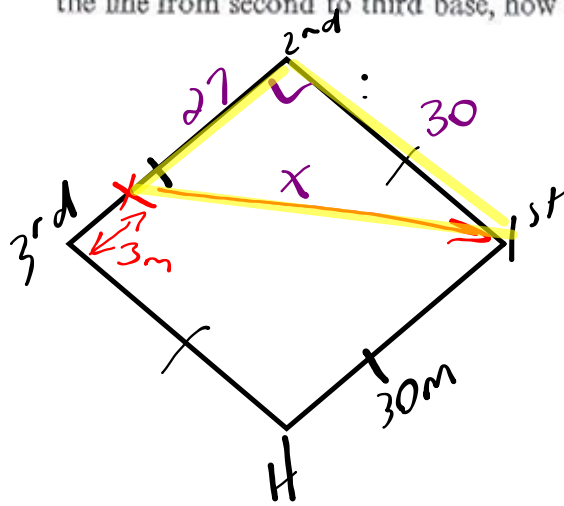
Homework...

Worksheet - Law of Cosines.doc **QUESTIONS???**

10.12

4)

14 The distance between the bases in a baseball diamond is 30 m. If the third baseman picks up a fair ground ball 3 m from third base, and on the line from second to third base, how far will his throw be to first base?



$$x^2 = 27^2 + 30^2$$

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√(27²+30²)
40.36087214
27²+30²-2*27*30*
cos(90)
1629
√(Ans
40.36087214
    
```

10.13

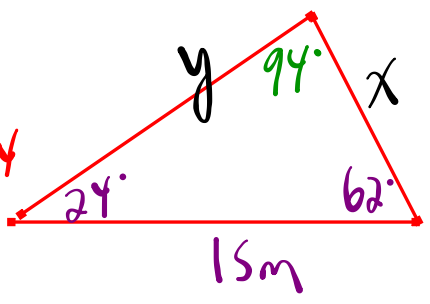
5)

5 To meet the solar heating tolerances, a house roof line must be constructed to exact specifications. If the house is 15 m wide and the roof rafters must make 24° and 62° with the joists, find the length of each rafter.

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

$$\frac{x \sin 24^\circ}{\sin 24^\circ} = \frac{15 \sin 24^\circ}{\sin 94^\circ}$$

$$x = 6.1 \text{ m}$$

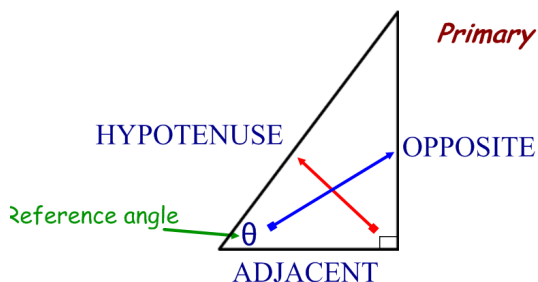


$$\frac{y \sin 62^\circ}{\sin 62^\circ} = \frac{15 \sin 62^\circ}{\sin 94^\circ}$$

$$y = 13.3 \text{ m}$$

REVIEW - What formula do I use? Ask yourself...

- Is it a right triangle? If Yes, then...



Primary Trigonometric Ratios

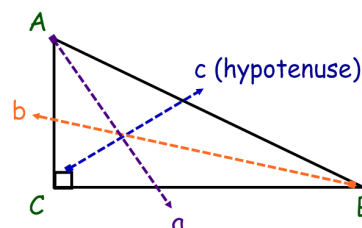
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

Memory Aid: "SOH CAH TOA"

Pythagorean Theorem



$$c^2 = a^2 + b^2$$

- If you are finding a side, do you have **SAS**? If Yes, then...

Law of Cosines

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

- If you are finding an angle, do you have **SSS**? If Yes, then...

Law of Cosines (rearranged)

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

- Anything else...use your Law of Sines!

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

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

↑
"when looking for a side"

↑
"when looking for an angle"

EXTRA PRACTICE TIME...Finish for HW!!!

 [Puzzle Review - Primary Trig, Law of Sines_Cosines.pdf](#)

$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$c^2 = a^2 + b^2$$

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

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

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

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

Attachments

Worksheet - Law of Cosines.doc

Puzzle Review - Primary Trig, Law of Sines_Cosines.pdf