

FINISH PROJECT

REVIEW FOR TEST

The test is tomorrow. Tomorrow is the last Tuesday for Grade Recovery.

**LET'S PRACTICE MEMORIZING FORMULAS FOR TOMORROW'S TEST. THEY WILL NOT BE INCLUDED.**

Law of Cosines  
SSS, SAS

Law of Sines  
SSA, SAA, ASA

## Law of Sines

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

## Law of Cosines

$$A = \cos^{-1} \left( \frac{b^2 + c^2 - a^2}{2bc} \right)$$

$$a = \sqrt{b^2 + c^2 - 2bc \cdot \cos(A)}$$

# Area

$$\begin{matrix} \text{SAS} \\ a \quad B \quad c \end{matrix} = \frac{1}{2} ac \sin B$$

$$\begin{matrix} x & y & z \\ A & s & t \end{matrix} = \frac{1}{2} xz \sin A$$

$$\begin{matrix} A & s & t \\ A & s & t \end{matrix} = \frac{1}{2} st \sin A$$

$$\text{SSS} = \sqrt{s(s-a)(s-b)(s-c)}$$

$$s = \frac{(a+b+c)}{2}$$

Law of Sines

SSA, ASA, AAS

Law of Cosines

SAS, SSS

Law of sines

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

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SSA

a, b, A

b, a, B

x, y, X

height =  $b \cdot \sin A$

*whatever shows once* (pointing to  $b$ )

*whatever shows twice* (pointing to  $\sin A$ )

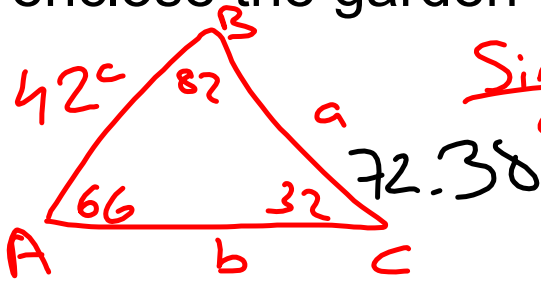


Law of cosines

$$A = \cos^{-1} \left( \frac{(b^2 + c^2 - a^2)}{(2bc)} \right)$$

$$a = \sqrt{(b^2 + c^2 - 2bc \cdot \cos(A))}$$

one side of a triangular garden is 42 ft. the angles on each end of this side measures 66 and 82. find the length of fense needed to enclose the garden



$$\frac{\sin 66}{a} = \frac{\sin 82}{b} = \frac{\sin 32}{42}$$

$$\frac{\sin 32}{42} = \frac{\sin 66}{a}$$

$$\cancel{\frac{\sin 32}{42}} a = \sin(66) \cdot 42$$

$$\cancel{\sin 32} = \frac{38.36}{\sin 32}$$

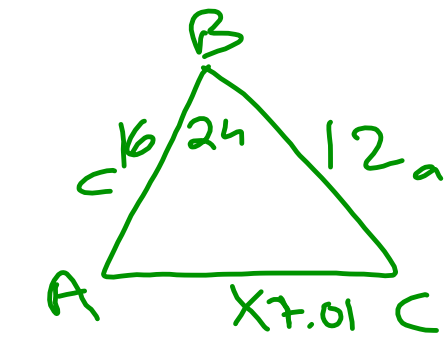
$$a = 72.38$$

$$b = \sqrt{(72.38^2 + 42^2 - 2(72.38 \cdot 42) \cdot \cos(82))}$$

$$\therefore 78.46$$

$$A = \cos^{-1} \left( \frac{(b^2 + c^2 - a^2)}{(2bc)} \right)$$

$$a = \sqrt{b^2 + c^2 - 2bc \cdot \cos(A)}$$



SAS

$$b = \sqrt{12^2 + 16^2 - 2(12)(16)\cos(24)}$$

$$b = 7.01$$


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$$S = \underline{7.01 + 16 + 12}$$

$$S = 17.52$$

$$\text{Area} = \sqrt{17.5(17.5 - 12)}$$

$$17.5 - 16$$

$$(17.5 - 7.01)$$

$$A = 38.92 \text{ cm}^2$$

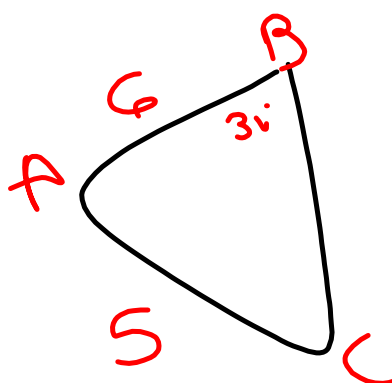
$$b = 5$$

$$c = 6$$

$$B = 30^\circ$$

SSA

$$h = c \cdot \sin B$$

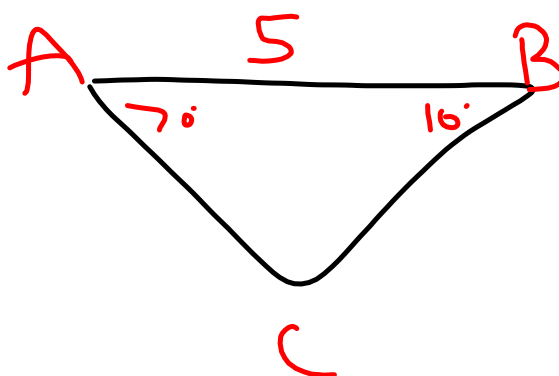


$$A = 70^\circ$$

$$B = 10^\circ$$

$$c = 5$$

ASA



Law of Cos

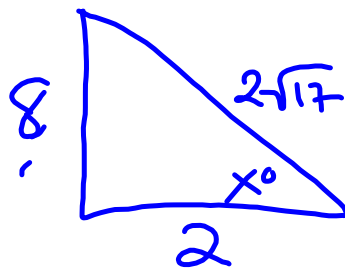
$$A =$$

Area

$$SAS \quad A_{\Delta} = \frac{1}{2} ab \sin C$$

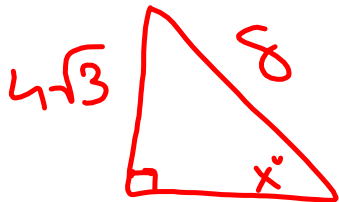
$$A_{\Delta XYZ} = \frac{1}{2} xz \sin Y$$





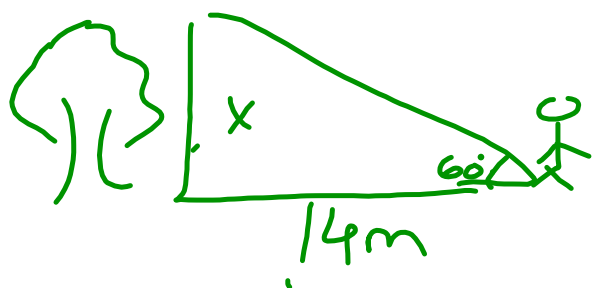
$$\tan^{-1} \left( \frac{8}{2} \right)$$

$$X = 75.96^\circ$$



$$\cos^{-1} \left( \frac{4}{8} \right)$$

$$x = 60^\circ$$



$$\frac{\tan(60)}{1} = \frac{x}{14}$$

$$\tan(60) \cdot 14 = x$$

$$14\sqrt{3} = x$$

