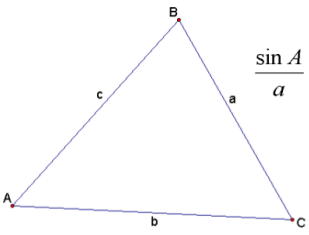


6-1 The Law of Sines

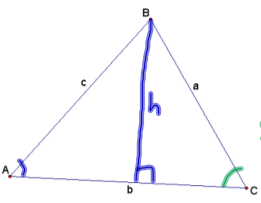


$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

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

Jan 19-4:03 PM

★ Proof of the law of sines



$$\sin A = \frac{h}{c} \rightarrow h = c \sin A$$

$$\sin C = \frac{h}{a} \rightarrow h = a \sin C$$

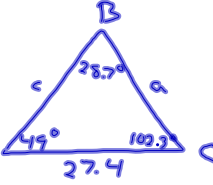
$$\frac{c \sin A}{a} = \frac{a \sin C}{c}$$

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

Jan 19-4:06 PM

Ex. 1 Solve the triangle ABC

$C = 102.3^\circ$   
 $B = 28.7^\circ$   
 $b = 27.4$



$$\frac{\sin 28.7^\circ}{27.4} = \frac{\sin 49^\circ}{a}$$

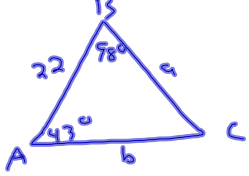
$$\frac{\sin 28.7^\circ}{27.4} = \frac{\sin 102.3^\circ}{c}$$

$A = 49^\circ$   
 $a = 43.1$   
 $c = 55.7$

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Ex. 2 Solve triangle ABC

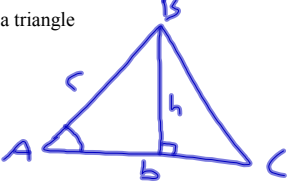
$c = 22$   
 $A = 43^\circ$   
 $B = 98^\circ$



$C = 39^\circ$   
 $a = 23.8$   
 $b = 34.6$

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Area of a triangle

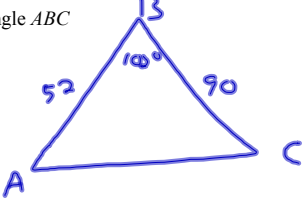
$$A = \frac{1}{2} b \cdot h$$


$$A = \frac{1}{2} \cdot b \cdot c \cdot \sin A$$

Jan 19-4:11 PM

Ex. 3 Find the area of triangle ABC

$c = 52$   
 $B = 102^\circ$   
 $a = 90$



$$A = \frac{1}{2} \cdot 52 \cdot 90 \cdot \sin 102^\circ$$

$$A \approx 2288$$

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Homework  
p.414  
#1-7, 19-24

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