

Pg 604

2. $B=26^\circ$, $c=8.9$, $a=17.2$

17. 8.2

Pg 613

17. Law of Sines, $a=96.7$, $C=98^\circ$, $c=101.9$

19. Law of Cosines, $A=73.7^\circ$, $B=51.8^\circ$, $C=54.5^\circ$

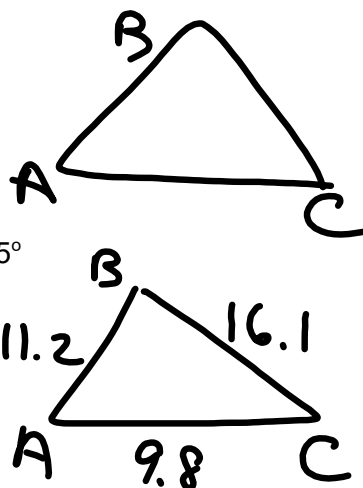
Pg 668

1. $A=83^\circ$, $b=14.7$, $c=12.4$

2. $B=70.1^\circ$, $A=73.9^\circ$, $a=8.2$

3. $A=99.9^\circ$, $B=36.8^\circ$, $C=43.3^\circ$

4. 43.6 cm^2



HW 5-5

Dec 5-10:04 PM

QUIZ

Nov 30-3:09 PM

Applications of Trig Laws

Unit 5 Day 6

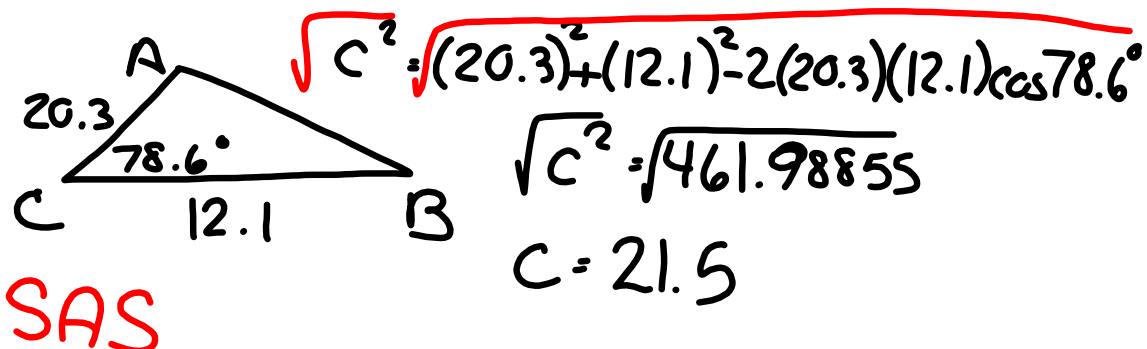
$$\text{Law of Sines: } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{Law of Cosines: } c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Area of a Triangle: } K = \frac{1}{2}ab \sin C$$

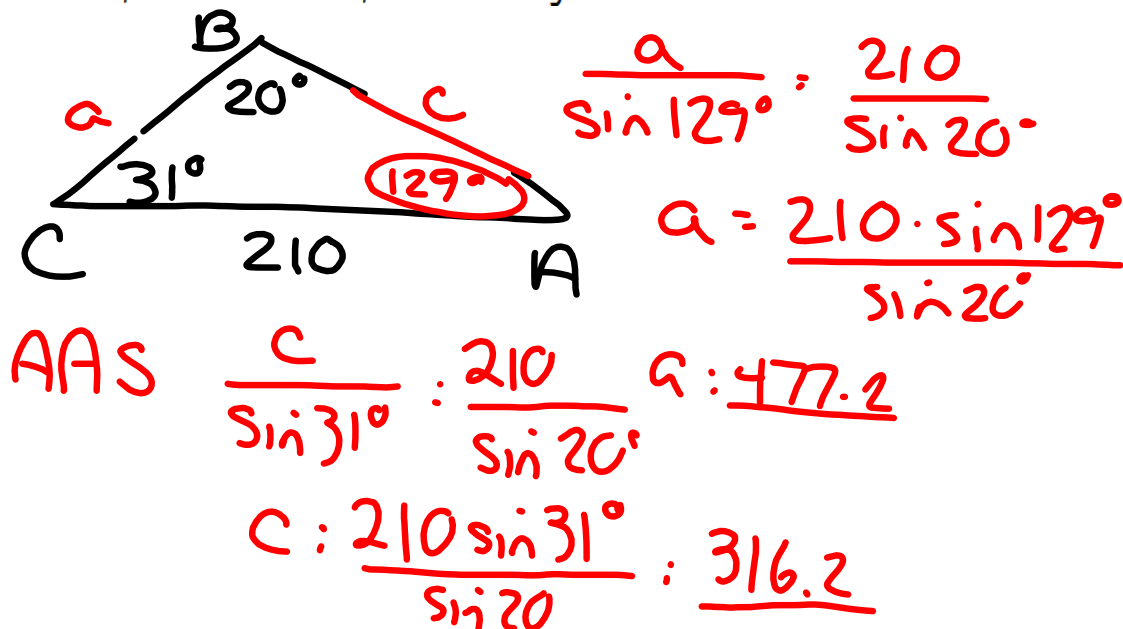
For each problem, draw a diagram to represent the given information. Find all values to the nearest 10th.

1. Given: $C = 78.6^\circ$, $a = 12.1$, $b = 20.3$ Find c .



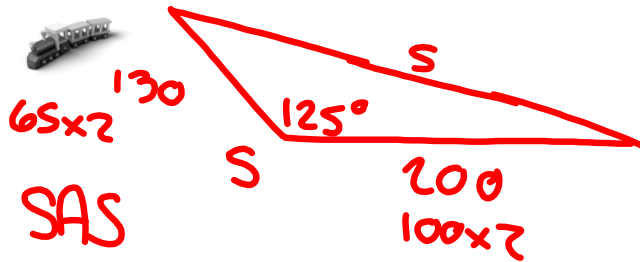
Nov 30-2:54 PM

2. $B = 20^\circ$, $C = 31^\circ$ and $b = 210$, solve the triangle.



Nov 30-2:54 PM

3. Two trains leave a station on different tracks. The tracks make an angle of 125° with the station as vertex. The first train travels at an average speed of 100 km/hr, and the second travels at an average speed of 65 km/hr. How far apart are the trains after 2 hours?

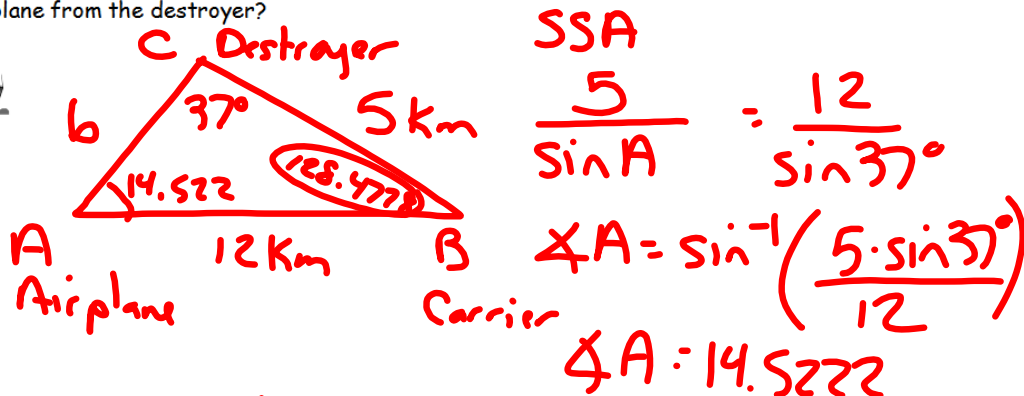


$$\sqrt{S^2} = \sqrt{(130)^2 + (200)^2 - 2(130)(200)\cos 125^\circ}$$

$$S : 294.5 \text{ Km}$$

Nov 30-2:55 PM

4. An airplane A takes off from carrier B and flies in a straight line for 12 km. At that instant, an observer on destroyer C, located 5 km from the carrier, notes that vertex angle determined by the carrier, the destroyer and the plane is 37° . How far is the plane from the destroyer?



$$\frac{b}{\sin 128.4778} = \frac{12}{\sin 37^\circ}$$

$$b : \frac{12 \cdot \sin 128.4778}{\sin 37^\circ}$$

$$b : 15.6 \text{ km}$$

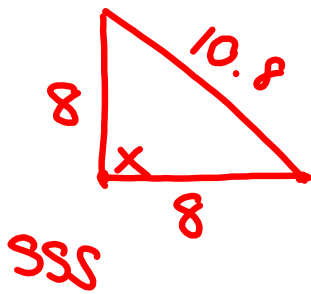
$$\frac{5}{\sin A} = \frac{12}{\sin 37^\circ}$$

$$\angle A = \sin^{-1}\left(\frac{5 \cdot \sin 37^\circ}{12}\right)$$

$$\angle A : 14.5222$$

Nov 30-2:55 PM

5. A stake is located 10.8 feet from the end of a closed gate that is 8 feet long. The gate swings open, and its end hits the stake. Through what angle did the gate swing?



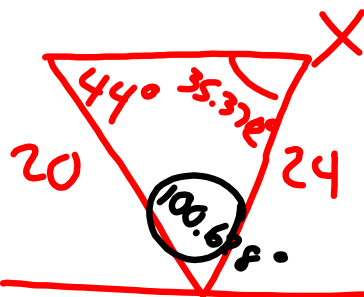
$$\angle X = \cos^{-1} \left(\frac{10.8^2 - 8^2 - 8^2}{-2(8)(8)} \right)$$

$$\angle X : 84.9^\circ$$



Nov 30-2:55 PM

6. A triangular banner is hung from a window along the side of a building. The edges that touch the window are 20 and 24 feet long respectively. The third side is parallel to the ground. The angle between the 20-foot side and the third side is 44° . What is the area of the banner?



$$\frac{24}{\sin 44^\circ} = \frac{20}{\sin X}$$

$$\angle X = \sin^{-1} \left(\frac{20 \cdot \sin 44^\circ}{24} \right)$$

$$\angle X : 35.372^\circ$$

SSA

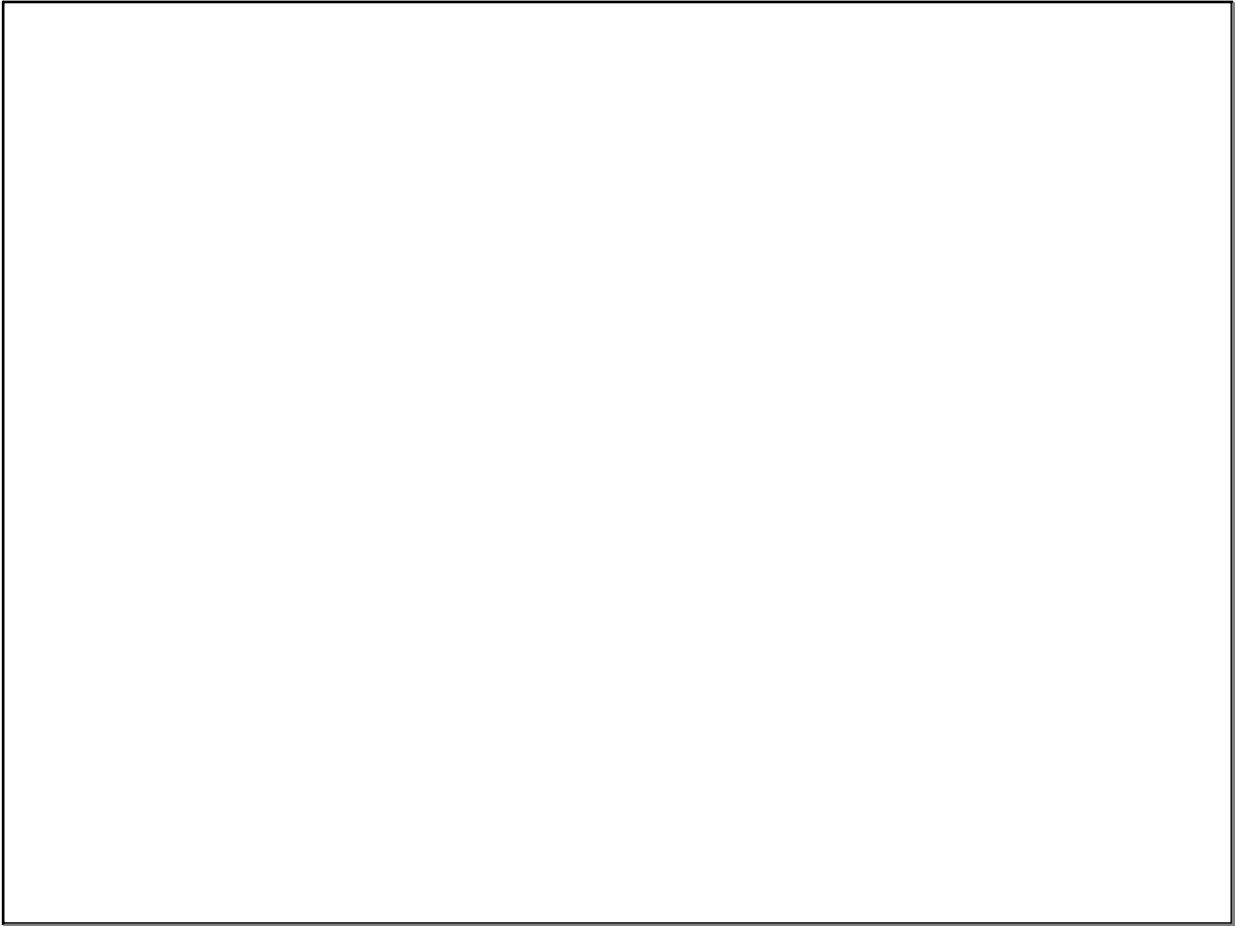
$$A_{\Delta} : \frac{1}{2}(20)(24)\sin 100.628^\circ$$

SAS

$$: 235.9 \text{ ft}^2$$



Nov 30-2:56 PM



Dec 7-9:46 PM