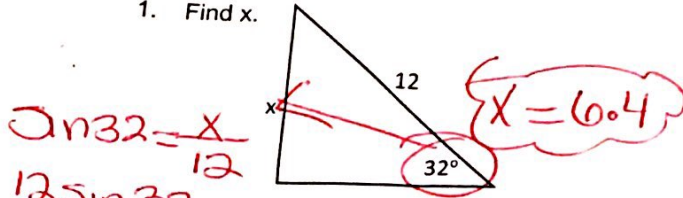
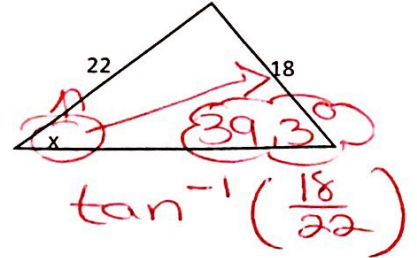


Part 1 Right triangle Trig. Assume the following are right triangles.

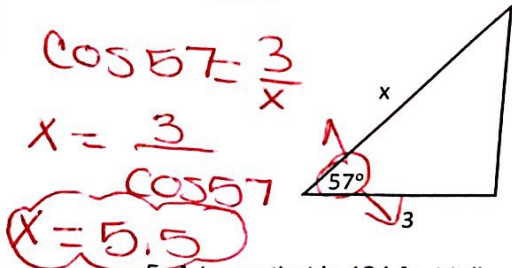
1. Find x.



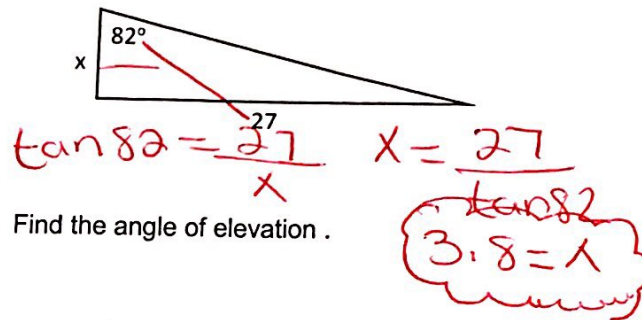
2. Find x.



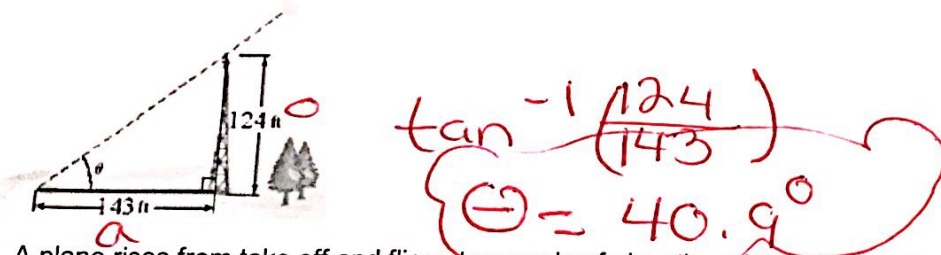
3. Find x



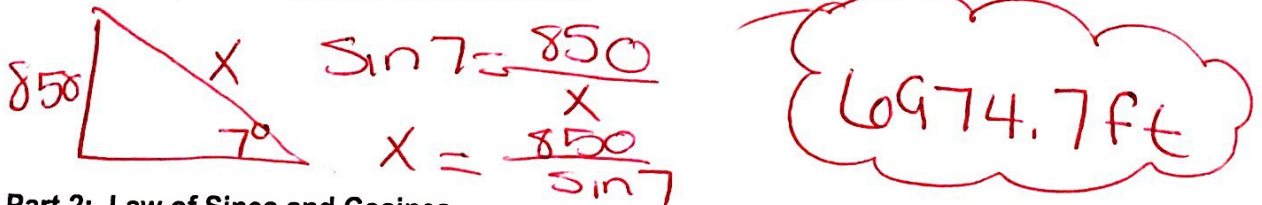
4. Find x.



5. A tower that is 124 feet tall casts a 143 foot shadow. Find the angle of elevation.

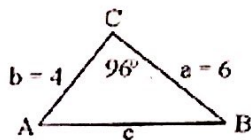


6. A plane rises from take off and flies at an angle of elevation of 7° . When it has gotten to a height of 850 feet, find the distance that it has flown.

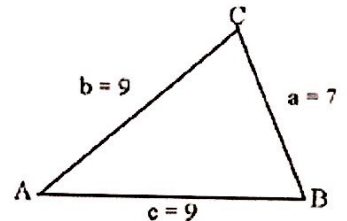


Part 2: Law of Sines and Cosines.

7. Find side c.



8. Find Angle A.



9. Two sides and an angle are given (SSA). $a = 13$, $b = 15$ and $\angle A = 53^\circ$. Find $\angle B$.

10. Two Angles and a side (ASA) are given. $\angle A = 52^\circ$, $\angle B = 32^\circ$ and side $c = 14$. Find side a.

10

$$\textcircled{7} \quad c^2 = 4^2 + 6^2 - 2(4)(6) \cos 96$$

$$c^2 = 57.01736624$$

$$c = 7.6$$

$$\textcircled{8} \quad 7^2 = 9^2 + 9^2 - 2(9)(9) \cos A$$

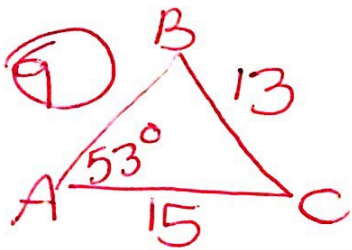
$$49 = 162 - 162 \cos A$$

$$\frac{-113}{-162} = \frac{-162 \cos A}{-162}$$

$$\frac{113}{162} = \cos A$$

$$\cos^{-1}\left(\frac{113}{162}\right) = A$$

$$45.8^\circ = A$$



$$\frac{\sin 53}{13} = \frac{\sin B}{15}$$

$$15 \sin 53 = 13 \sin B$$

$$\frac{15 \sin 53}{13} = \sin B$$

$$\sin^{-1}\left(\frac{15 \sin 53}{13}\right) = B$$

$$67.1^\circ = B$$

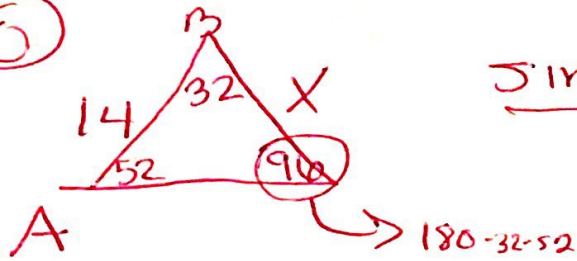
2nd A

$$180 - 67.1 \text{ or } 112.9^\circ$$

$$112.9 + 53 < 180$$

$$165.9 < 180$$

5



$$\frac{\sin 52}{X} = \frac{\sin 96}{14}$$

$$\frac{14 \sin 52}{\sin 96} = \frac{X \sin 96}{\sin 96}$$

$$11.1 = X$$