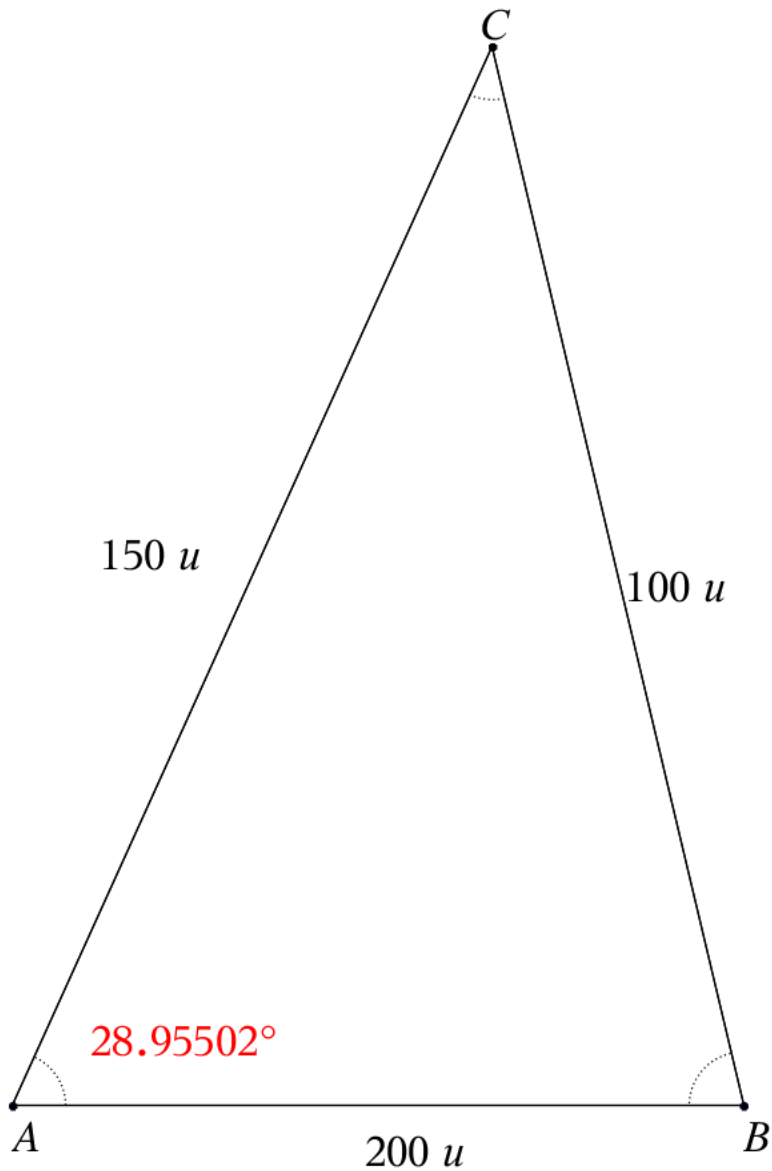


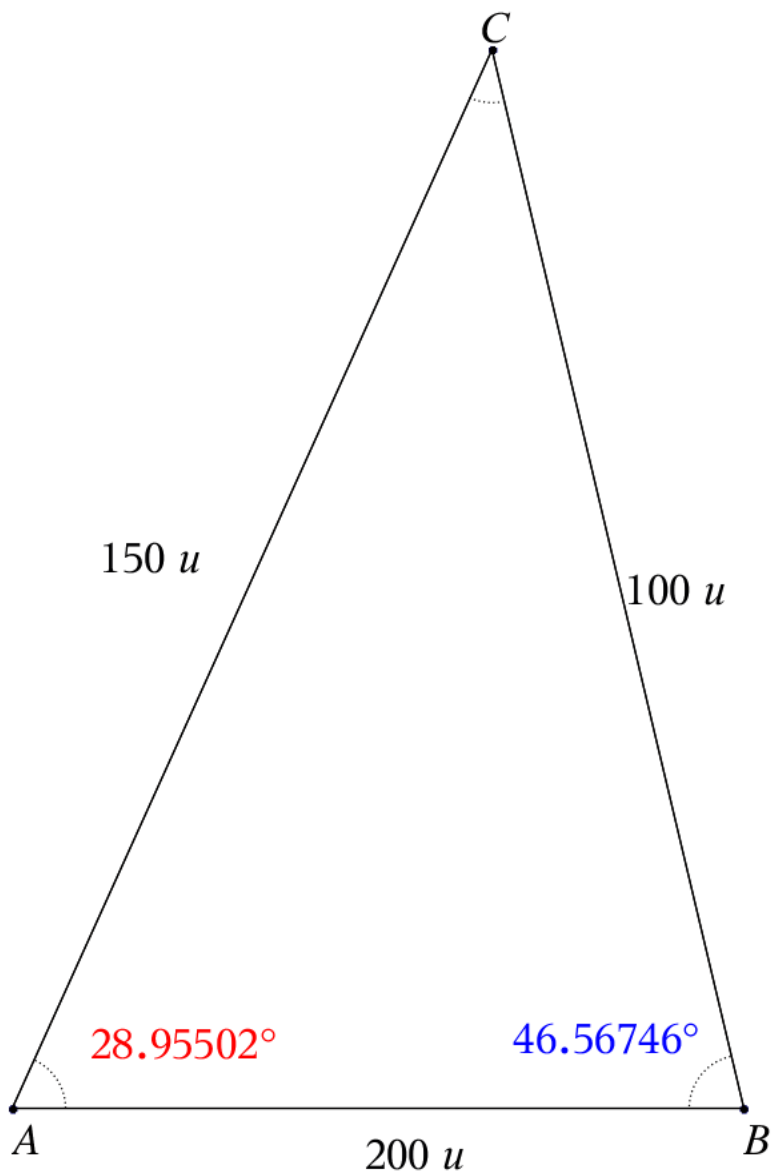
Parcel of Land Problem



Find the measure of angle A

$$\cos A = \frac{150^2 + 200^2 - 100^2}{2 \cdot 150 \cdot 200}$$

$$m\angle A = \cos^{-1}\left(\frac{150^2 + 200^2 - 100^2}{2 \cdot 150 \cdot 200}\right) \approx 28.955$$



Find the measure of angle A

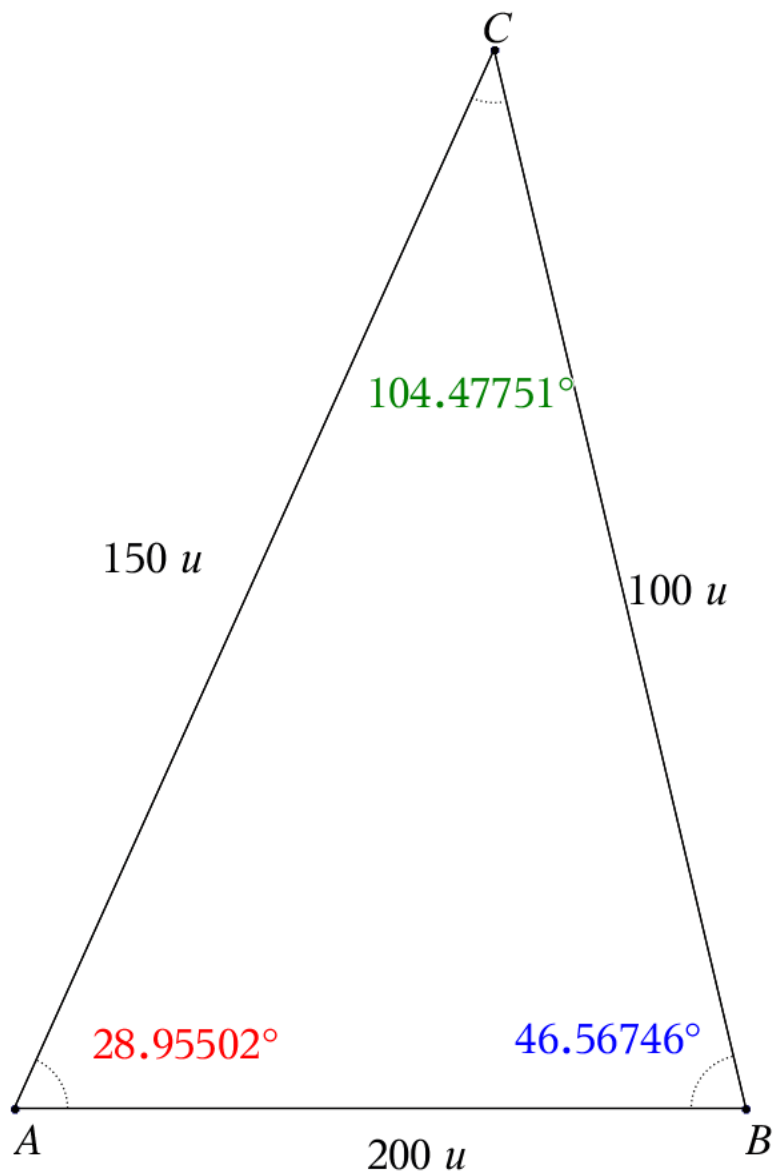
$$\cos A = \frac{150^2 + 200^2 - 100^2}{2 \cdot 150 \cdot 200}$$

$$m\angle A = \cos^{-1}\left(\frac{150^2 + 200^2 - 100^2}{2 \cdot 150 \cdot 200}\right) \approx 28.955$$

Find the measure of angle B

$$\cos B = \frac{100^2 + 200^2 - 150^2}{2 \cdot 100 \cdot 200}$$

$$m\angle B = \cos^{-1}\left(\frac{100^2 + 200^2 - 150^2}{2 \cdot 100 \cdot 200}\right) \approx 46.5675$$



Find the measure of angle A

$$\cos A = \frac{150^2 + 200^2 - 100^2}{2 \cdot 150 \cdot 200}$$

$$m\angle A = \cos^{-1}\left(\frac{150^2 + 200^2 - 100^2}{2 \cdot 150 \cdot 200}\right) \approx 28.955$$

Find the measure of angle B

$$\cos B = \frac{100^2 + 200^2 - 150^2}{2 \cdot 100 \cdot 200}$$

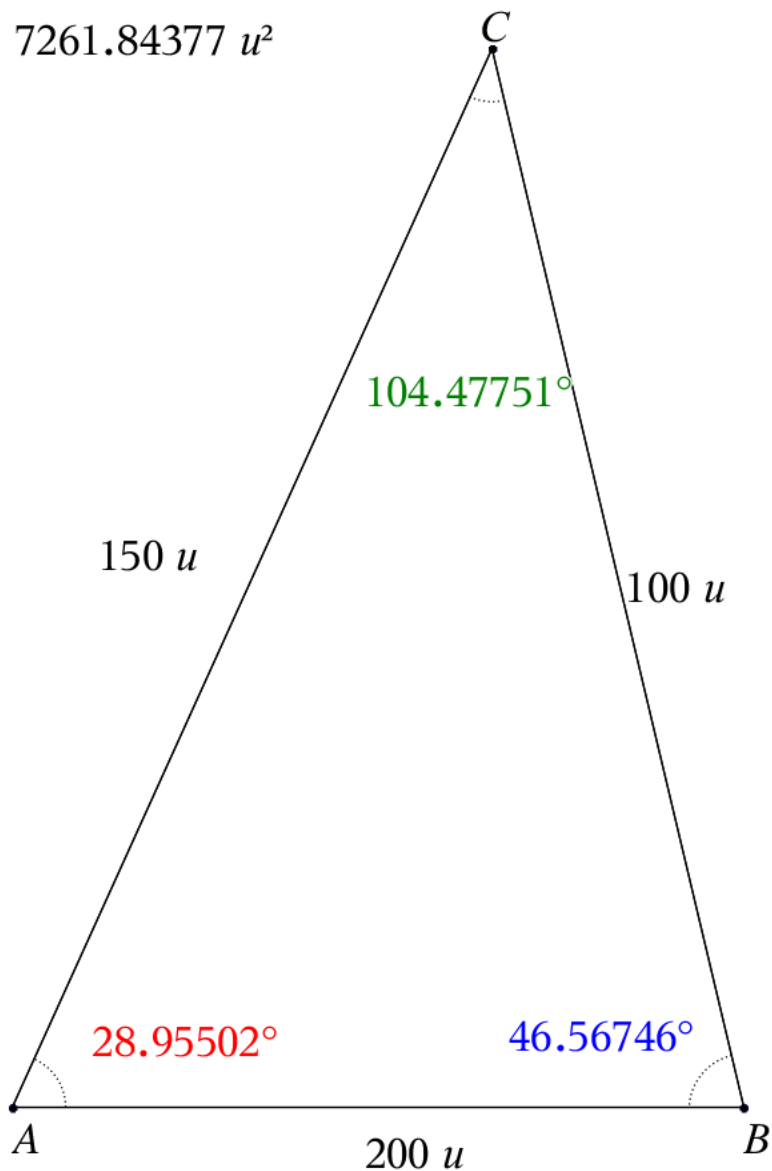
$$m\angle B = \cos^{-1}\left(\frac{100^2 + 200^2 - 150^2}{2 \cdot 100 \cdot 200}\right) \approx 46.5675$$

Find the measure of angle C

$$\cos C = \frac{100^2 + 150^2 - 200^2}{2 \cdot 100 \cdot 150}$$

$$m\angle C = \cos^{-1}\left(\frac{100^2 + 150^2 - 200^2}{2 \cdot 100 \cdot 150}\right) \approx 104.4775$$

7261.84377 u^2



Finding Area using Heron's Formula

$$s = \frac{200+100+150}{2} \rightarrow 225$$

$$A = \sqrt{225 \cdot (225-200) \cdot (225-150) \cdot (225-100)}$$

$$A = \sqrt{52734375}$$

$$A = 1875 \cdot \sqrt{15}$$

$$A \approx 7261.844$$

Cost of the taxes

$$10 \cdot \sqrt{225 \cdot (225-200) \cdot (225-150) \cdot (225-100)} \\ = 18750 \cdot \sqrt{15}$$

$$\approx 72618.438$$

$$\cos^{-1} \left(\frac{7^2 + (11.8)^2 - 5^2}{2 \cdot 7 \cdot 11.8} \right) \quad 8.83468^\circ$$

$$\cos^{-1} \left(\frac{5^2 + (11.8)^2 - 7^2}{2 \cdot 5 \cdot 11.8} \right) \quad 12.4166^\circ$$

$$\cos^{-1} \left(\frac{5^2 + 7^2 - (11.8)^2}{2 \cdot 5 \cdot 7} \right) \quad 158.749^\circ$$

□