Answer on Question #46559 – Math – Geometry

Given: A=38 degrees, a=12cm and b=10cm find the remaining parts

Solution:

According to the theorem of sines:

$$\frac{a}{sinA}=\frac{b}{sinB}=\frac{c}{sinC}$$

$$\frac{a}{sinA}=\frac{b}{sinB}$$

$$\frac{12}{sin38°}=\frac{10}{sinB}$$

$$sinB=\frac{10*sin38°}{12}=\frac{10*0.6157}{12}=0.5131$$

$$B=31°$$

$$A+B+C=180°$$

$$C=180°-\mathrm{A}-\mathrm{B}=180°-38°-31°=111°$$

$$\frac{b}{sinB}=\frac{c}{sinC}$$

$$\frac{10}{0.5131}=\frac{c}{0.9336}$$

$$c=\frac{10*0.9336}{0.5131}=18.195cm$$

Answer:

c=18.195cm

B=31°

C=111°