 Ambiguous case sine rule



$$\frac{\sin(A)}{a}=\frac{\sin(D)}{d}$$

$$\frac{\sin(30)}{6}=\frac{\sin(D)}{10}$$

$$\sin(D)=\frac{10×\sin(30)}{6}$$

$$D=56°27'$$

However, as

$$\sin(θ)=\sin((180-θ))$$

$$∴\sin(56°27')=\sin(123°33')$$

Now $∠$ sum of a $∆=180°$

In $∆ABD$,

$$∠ABD=180°-30°-56°27'$$

$$∠ABD=93°33'$$

But in $∆ABC$,

$$∠ACB=180°-30°-123°33'$$

$$∠ACB=26°27'$$

$∴$There are 2 solutions to the following problem.

Calculate the value of $β$.

