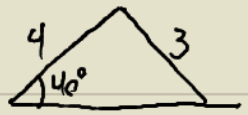
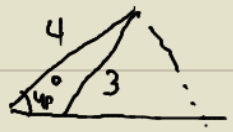
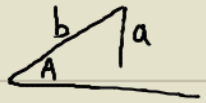




4. $A=40^\circ$ $a=6$ $b=9$



"2 TRIANGLES"

So $\theta = A = 40^\circ$
$p = b = 9$
$opp = a = 6$

$h = p \sin\theta$
$h = 9 \sin 40^\circ$
$h = 5.79$

"TRIANGLE 1"

$A=40^\circ$, $a=6$, $b=9$

B

$\frac{\sin B}{b} = \frac{\sin A}{a}$

$\frac{\sin B}{9} = \frac{\sin 40^\circ}{6}$

$\sin B = \frac{9 \sin 40^\circ}{6}$

$\sin^{-1}\sin B = \sin^{-1}\left(\frac{9 \sin 40^\circ}{6}\right)$

$B = 74.62^\circ$

ANGLE C

$C = 180^\circ - A - B$

$C = 180^\circ - 40^\circ - 74.62^\circ$

$C = 65.38^\circ$

SIDE c

$\frac{c}{\sin C} = \frac{a}{\sin A}$

$\frac{c}{\sin 65.38^\circ} = \frac{6}{\sin 40^\circ}$

$c = \frac{6 \sin 65.38^\circ}{\sin 40^\circ}$

$c = 8.49$

"TRIANGLE 2"

$A=40^\circ$, $a=6$, $b=9$

OTHER B

OTHER B = 180 − FIRST B

$B = 180^\circ - 74.62^\circ$

$B = 105.38^\circ$

ANGLE C

$C = 180^\circ - A - B$

$C = 180^\circ - 40^\circ - 105.38^\circ$

$C = 34.62^\circ$

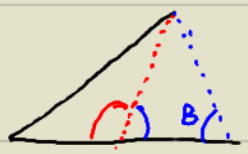
SIDE c

$\frac{c}{\sin C} = \frac{a}{\sin A}$

$\frac{c}{\sin 34.62^\circ} = \frac{6}{\sin 40^\circ}$

$c = \frac{6 \sin 34.62^\circ}{\sin 40^\circ}$

$c = 5.30$



$180^\circ - B$