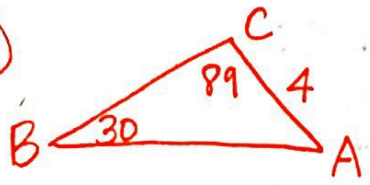
① 

$\angle A = 180 - 30 - 89 = \boxed{61^\circ}$

$\frac{\sin 30}{4} = \frac{\sin 61}{a}$

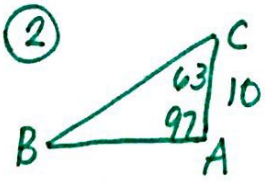
$\frac{a \sin 30}{\sin 30} = \frac{4 \sin 61}{\sin 30}$

$\boxed{a = 7}$

$\frac{\sin 30}{4} = \frac{\sin 89}{c}$

$\frac{c \sin 30}{\sin 30} = \frac{4 \sin 89}{\sin 30}$

$\boxed{c = 8}$

② 

$\angle B = 180 - 63 - 97 = \boxed{20^\circ}$

$\frac{\sin 20}{10} = \frac{\sin 97}{a}$

$\frac{a \sin 20}{\sin 20} = \frac{10 \sin 97}{\sin 20}$

$\boxed{a = 29}$

$\frac{\sin 63}{c} = \frac{\sin 20}{10}$

$\frac{10 \sin 63}{\sin 20} = \frac{c \sin 20}{\sin 20}$

$\boxed{c = 26.1}$

③ $m\angle A = 88^\circ, m\angle B = 67^\circ, a = 26$

$\angle C = 180 - 88 - 67 = \boxed{25^\circ}$

$\frac{\sin 88}{26} = \frac{\sin 67}{b}$

$\frac{b \sin 88}{\sin 88} = \frac{26 \sin 67}{\sin 88}$

$\boxed{b = 23.9}$

$\frac{\sin 88}{26} = \frac{\sin 25}{c}$

$\frac{c \sin 88}{\sin 88} = \frac{26 \sin 25}{\sin 88}$

$\boxed{c = 11}$

④ $m\angle A = 127^\circ, m\angle B = 28^\circ, c = 9$

$\angle C = 180 - 127 - 28 = \boxed{25^\circ}$

$\frac{\sin 25}{9} = \frac{\sin 127}{a}$

$\frac{a \sin 25}{\sin 25} = \frac{9 \sin 127}{\sin 25}$

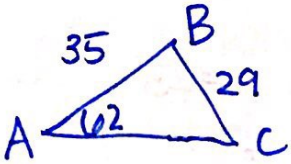
$\boxed{a = 17}$

$\frac{\sin 28}{b} = \frac{\sin 25}{9}$

$\frac{9 \sin 28}{\sin 25} = \frac{b \sin 25}{\sin 25}$

$\boxed{b = 10}$

⑤ $m\angle A = 62^\circ, C = 35, a = 29$



$\frac{\sin 62}{29} = \frac{\sin C}{35}$

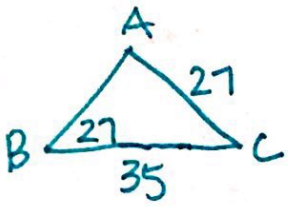
$\frac{35 \sin 62}{29} = \frac{29 \sin C}{29}$

$1.065 = \sin C$

Error

$\boxed{\text{Not a triangle}}$

⑥ $m\angle B = 27°$, $a = 35$, $b = 27$



$$\frac{\sin 27}{27} = \frac{\sin A}{35}$$

$$\frac{35\sin 27}{27} = \frac{27\sin A}{27}$$

$$0.5885 = \sin A$$

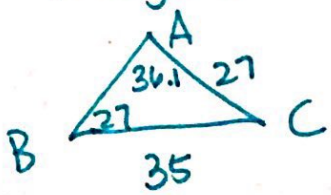
$$A = 36.1°$$

$180 - 36.1 = 143.9$

$143.9 + 27 = 170.9$ ✓

2 Triangles

Triangle 1:



$\angle A = 36.1°$

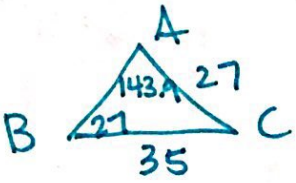
$\angle C = 180 - 36.1 - 27 = 116.9°$

$$\frac{\sin 116.9}{c} = \frac{\sin 27}{27}$$

$$\frac{27\sin 116.9}{\sin 27} = \frac{c\sin 27}{\sin 27}$$

$53 = c$

Triangle 2



$\angle A = 143.9$

$\angle C = 180 - 143.9 - 27 = 9.1°$

$$\frac{\sin 9.1}{c} = \frac{\sin 27}{27}$$

$$\frac{27\sin 9.1}{\sin 27} = \frac{c\sin 27}{\sin 27}$$

$9.4 = c$

⑦ $m\angle B = 153°$, $m\angle A = 16°$, $a = 23$

$\angle C = 180 - 153 - 16 = 11°$

$$\frac{\sin 16}{23} = \frac{\sin 153}{b}$$

$$\frac{b\sin 16}{\sin 16} = \frac{23\sin 153}{\sin 16}$$

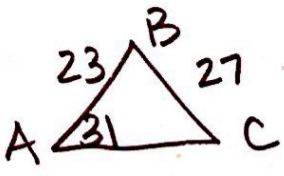
$b = 37.9$

$$\frac{\sin 11}{c} = \frac{\sin 16}{23}$$

$$\frac{23\sin 11}{\sin 16} = \frac{c\sin 16}{\sin 16}$$

$C = 15.9$

⑧ $m\angle A = 31°$, $a = 27$, $c = 23$



$$\frac{\sin 31}{27} = \frac{\sin C}{23}$$

$$\frac{23 \sin 31}{27} = \frac{27 \sin C}{27}$$

$$0.4387 = \sin^{-1} C$$

$$\boxed{\angle C = 26°}$$

$180° - 26 = 154$

$154 + 31 = 185$ ~~$\neq 180$~~

1 triangle

$\angle B = 180 - 26 - 31 = \boxed{123°}$

$$\frac{\sin 123}{b} = \frac{\sin 31}{27}$$

$$\frac{27 \sin 123}{\sin 31} = \frac{b \sin 31}{\sin 31}$$

$$\boxed{b = 44}$$

⑨ $m\angle C = 45°$, $b = 25$, $c = 11$

$$\frac{\sin 45}{11} = \frac{\sin B}{25}$$

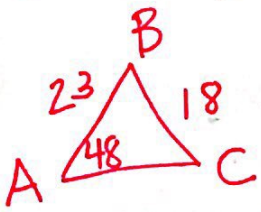
$$\frac{25 \sin 45}{11} = \frac{11 \sin B}{11}$$

$$1.607 = \sin^{-1} B$$

error

Not a triangle

(10) $m\angle A = 48°$, $c = 23$, $a = 18$



$$\frac{\sin 48}{18} = \frac{\sin C}{23}$$

$$\frac{23 \sin 48}{18} = \frac{18 \sin C}{18}$$

$$0.9496 = \sin^{-1} C$$

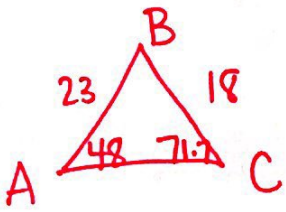
$$71.7° = C$$

$180 - 71.7 = 108.3$

$108.3 + 48 = 156.3$ ✓

2 Triangles

Triangle 1:



$\boxed{\angle C = 71.7°}$

$\angle B = 180 - 48 - 71.7 = \boxed{60.3°}$

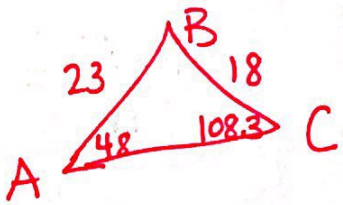
$$\frac{\sin 60.3}{b} = \frac{\sin 48}{18}$$

$$\frac{18 \sin 60.3}{\sin 48} = \frac{b \sin 48}{\sin 48}$$

$\boxed{21 = b}$

OR

Triangle 2:



$\boxed{\angle C = 108.3°}$

$\angle B = 180 - 48 - 108.3 = \boxed{23.7°}$

$$\frac{\sin 23.7}{b} = \frac{\sin 48}{18}$$

$$\frac{18 \sin 23.7}{\sin 48} = \frac{b \sin 48}{\sin 48}$$

$\boxed{9.7 = b}$