

Saturday, May 04, 2019
10:25 AM

Precalc

KEY

6.1, 6.2, 2.4, 6.5 Rev Day 1

Obj: to solve oblique triangles, find the area of oblique triangles, and perform operations on complex numbers

Hwk: Finish 6.5 Review worksheet

Do Now: Solve. Round to the thousandths place:

1. $A = 55^\circ, a = 11, b = 13$

2. $C = 43^\circ, a = 22.5, b = 31.4$

6.1, 6.2, 2.4, 6.5 Test

CLASS WORK:

6.5 Review Worksheet

Round to 3 decimal places

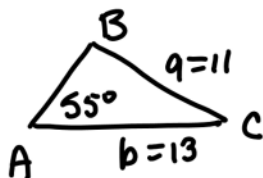
* Finish for HW

Questions?

When done, start HW:

Solve. Round to the thousandths place:

1. $A = 55^\circ, a = 11, b = 13$



SSA: 0, 1 or 2 Δs

1ST Δ:

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

$$\frac{11}{\sin 55^\circ} = \frac{13}{\sin B}$$

$$\sin B = \frac{13 \sin 55^\circ}{11} \leftarrow \text{pos } \swarrow \text{STB}$$

$$\sin^{-1}(.9681) = B$$

$$B \approx 75.49^\circ$$

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

$$C = 180^\circ - 55^\circ - 75.49^\circ$$

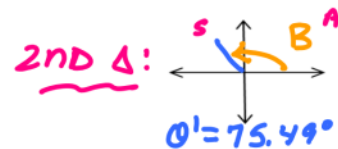
$$C = 49.51^\circ$$

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

$$\frac{11}{\sin 55^\circ} = \frac{c}{\sin 49.51^\circ}$$

$$c = \frac{11 \sin 49.51^\circ}{\sin 55^\circ}$$

$$c \approx 10.21$$



2ND Δ:

$$B = 180^\circ - 75.49^\circ$$

$$B = 104.51^\circ$$

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

$$C = 180^\circ - 55^\circ - 104.51^\circ$$

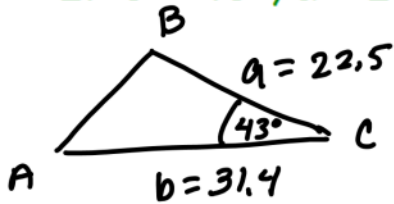
$$C = 20.49^\circ$$

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

$$\frac{11}{\sin 55^\circ} = \frac{c}{\sin 20.49^\circ}$$

$$c = \frac{11 \sin 20.49^\circ}{\sin 55^\circ} \approx 4.70$$

2. $C = 43^\circ$, $a = 22.5$, $b = 31.4$



SAS - 1 Δ

① $c^2 = a^2 + b^2 - 2ab \cos C$
 $c^2 = (22.5)^2 + (31.4)^2 - 2(22.5)(31.4) \cos 43^\circ$
 $c^2 = 458.8072 \leftarrow \text{STO}$
 $c \approx 21.42$

② Use Law of Sines to find smaller \angle

$\frac{a}{\sin A} = \frac{c}{\sin C}$
 $\frac{22.5}{\sin A} = \frac{21.42}{\sin 43^\circ} \leftarrow \text{STO}$

$\sin A = \frac{22.5 \sin 43^\circ}{21.42}$

$\sin^{-1}(.7164) = A$
 $\leftarrow \text{FSTO}$

$A \approx 45.76^\circ$

③ Find other angle by subtraction

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

$B = 180^\circ - 45.76^\circ - 43^\circ$

$B = 91.24^\circ$