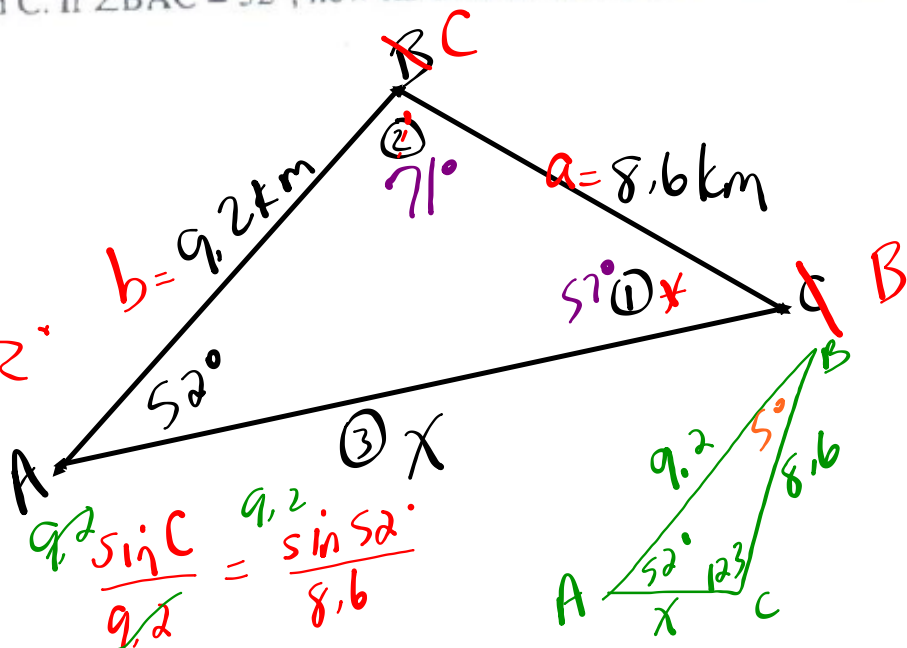# HOMEWORK... Questions?

Worksheet - Ambiguous Case.pdf

#5, 6, & 7
Page 184: #7, 8

7. A marathon swimmer starts at Island A, swims 9.2 km to Island B and then 8.6 km to Island C. If $\angle BAC = 52°$, how far does she have to swim back to Island A?

$\sqrt{X \cdot SSA}$
$\sqrt{acute}$
$\sqrt{a < b}$
$alt = 9.2 \sin 52°$
$alt = 7.25$
$a \underset{=}{vs} alt$
$8.6 > 7.25$
$+ambiguous$

$\frac{9.2 \sin C}{9.2} = \frac{\sin 52°}{8.6}$

$\sin C = \frac{9.2 \sin(52)}{8.6}$
.842988248
$\sin^{-1}(Ans)$
57.45702967

$\angle C = 57°$

OR

$\angle C = 180 - 57°$
$\angle C = 123°$
$\angle B = 5°$

$\angle B = 71°$

$X^2 = 9.2^2 + 8.6^2 - 2(9.2)(8.6)\cos 71°$

$\frac{9.2^2 + 8.6^2 - 2*9.2*8.6*\cos(71)}{107.0820952}$
$\sqrt{(Ans)}$
10.3480479

$X^2 =$
$X =$

$\boxed{X = 10.3m}$

$\frac{X \sin 5}{\sin 5} = \frac{8.6 \sin 5}{\sin 52}$

$\boxed{X = 0.95m}$

1

7. The *Raven's Song*, a traditional Tsimshian cedar canoe, is paddled away from a dock, directly toward a navigational buoy that is 5 km away. After reaching the buoy, the direction of the canoe is altered and it is paddled another 3 km. From the dock, the angle between the buoy and the canoe's current position measures 12°.

a) How far is the *Raven's Song* from the dock?
b) Is this the only possible solution? Explain.

NO → 2 solutions

Bill Helin carved the *Raven's Song* from a 600-year-old cedar taken from the Nimpkish Valley. The canoe was created to carry a message of goodwill from the First Nations Peoples of the West Coast of British Columbia to the 1994 Commonwealth Games in Victoria.

*SSA
✓ acute
✓ a < b

$alt = 5\sin 12$
$alt = 1.04$
a vs alt
$3 > 1.04$ → ambiguous

Buoy — 5 km — 148° — 3 km — Canoe — 20° — x — 12° — Dock

$$\frac{\sin C}{5} = \frac{5\sin 12}{3}$$

$$\sin C = \frac{5\sin 12}{3}$$
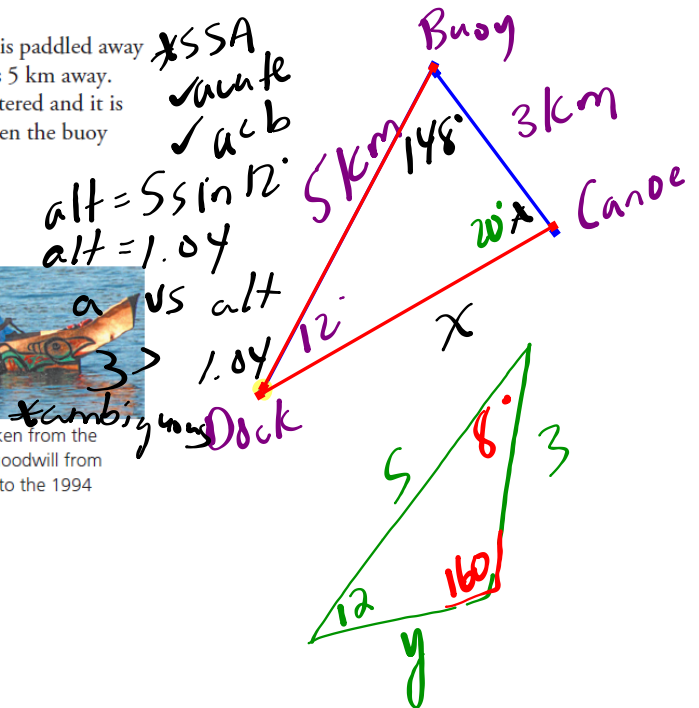
```
5sin(12
        1.039558454
5sin(12)/3
        .3465194847
sin⁻¹(Ans
        20.27457839
```

$\angle C = $ *$\angle C = 20°$ OR → $\angle C = 180 - 20°$
$\angle C = 160°$

$$\frac{x}{\sin 148} = \frac{3}{\sin 12}$$

$$\boxed{X = 7.6\,km}$$

$$\frac{y}{\sin 8} = \frac{3\sin 8}{\sin 12}$$

$$\frac{y\sin 8}{\sin 8} = \frac{3\sin 8}{\sin 12}$$

$$\boxed{y = 7.0\,km}$$

(green triangle: 5, 8°, 3, 12, 160°, y)

7. a) 7.7 km
b) e.g., No. From the buoy, the canoe could have travelled 3 km toward the shore (acute angle) or away from the shore (obtuse angle).

Review for Test - Lots of Practice from the Textbook!!!

Chapter Review…   Page 128]Chp.3
(Frequently Asked Questions) Page 153
                             Page 174]Chp.4
                             Page 199

Thurs Test.!!

Practice Questions…   *Bearing #11,12*   Page 129 #1 - 9]Chp3
✱ Ambiguous Case → 4.3   Page 154 #1 - 12]
                                      Page 175 #1 - 9   ]Chp4
∴   Page 200 #1 - 8   ]

Bearing #8

Practice Tests…   Page 152 #1 - 8 *Chp.3*
                                      Page 198 #1 - 7 *Chp.4*

Attachments

Worksheet - Ambiguous Case.pdf