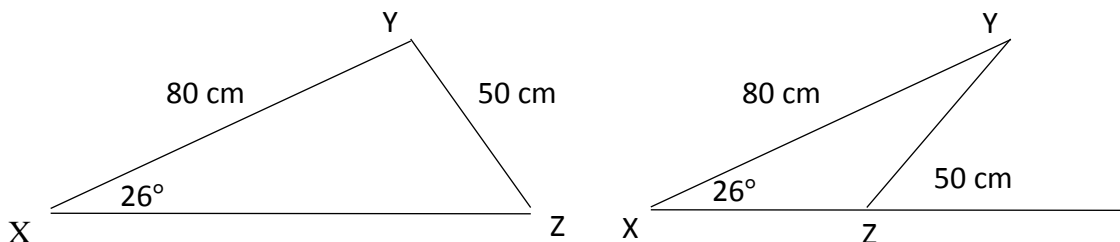


Section 6-5 The Ambiguous Case **ASS**



1. In  $\triangle XYZ$  above, find all possible side lengths of  $y$ .

**Law of Sines**  $\frac{\sin 26^\circ}{50} = \frac{\sin Z}{80}$

$$Z = \arcsin(0.70139)$$

$$Z = 44.5^\circ \quad \text{or} \quad 180^\circ - 44.5^\circ = 135.5^\circ$$

**\* Not all cases of ASS have 2 solutions though! Depends on side lengths and if given angle is obtuse or acute. Just check angle measurements after arcsin(X) to see if they indeed form a triangle.**

**----OR---- Use Law of Cosines (with quadratic formula) and it works each time!**

2.  $C = 64^\circ$ ,  $c = 10\text{ft}$ ,  $a = 8\text{ft}$ . Find all missing parts of triangle.

3.  $B = 20^\circ$ ,  $a = 5$ ,  $b = 3$ . Find all missing parts of triangle.

4.  $A = 33^\circ$ ,  $a = 9$ ,  $c = 7$ . Find all missing parts of triangle.

5.  $A = 85^\circ$ ,  $a = 5$ ,  $c = 8$ . Find all missing parts of triangle.