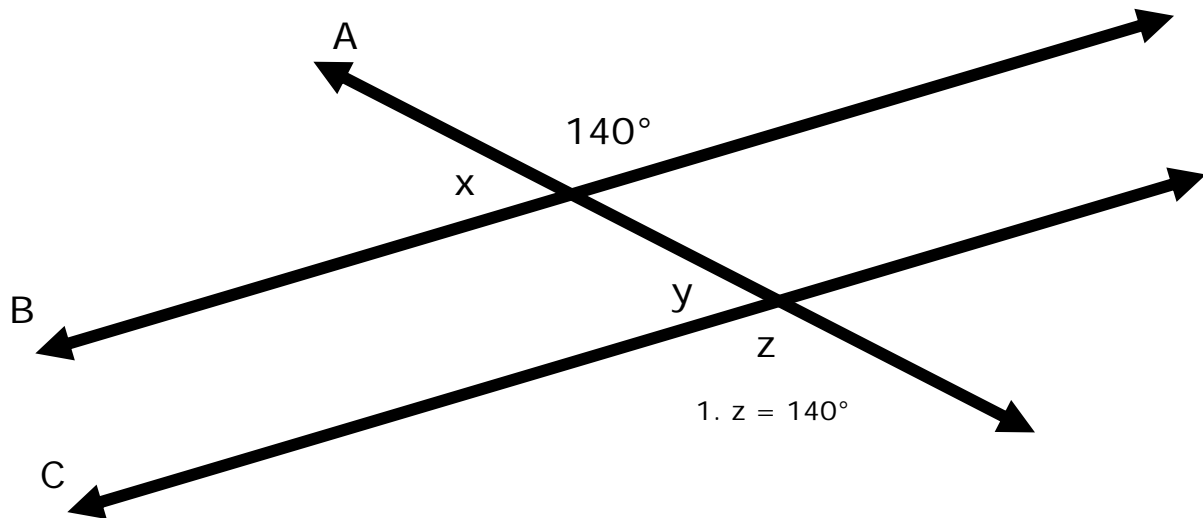


## Calculating Angles through Relationships Guided Lesson Explanation



### Explanation to #1-

$\angle z$  is an alternate exterior angle to the known angle measure ( $140^\circ$ ). Alternate exterior angles have equal values. The measure of  $\angle z$  is therefore  $140^\circ$ .

### Explanation to #2-

$\angle y$  and  $\angle z$  are supplementary angles. This means that the sum of  $\angle y$  and  $\angle z$  equal  $180^\circ$ . Using our knowledge for #1:

$$\angle y + 140^\circ = 180^\circ$$

$$\angle y = 180^\circ - 140^\circ = 40^\circ$$

### Explanation to #3-

$\angle x$  and the known angle ( $140^\circ$ ) are supplementary angles. This means that the sum of  $\angle x$  and  $140^\circ$  equal  $180^\circ$ .

$$\angle x + 140^\circ = 180^\circ$$

$$\angle x = 180^\circ - 140^\circ = 40^\circ$$