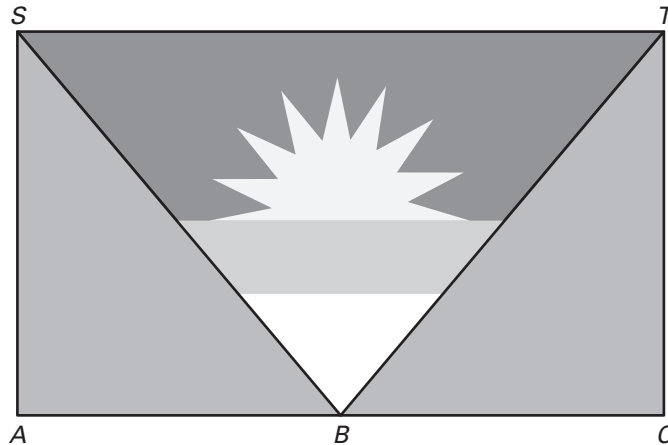


Interdisciplinary Application

For use with pages 220–227

Flags

HISTORY Antigua and Barbuda is an island country in the Caribbean Sea near the U. S. Virgin Islands. Olga and Isaac are doing a project on the country for their World History class. For part of their project, they decide to make the country's flag. They find a picture of the rectangular flag in a book.



By measuring carefully, they find that $\angle ABS \cong \angle CBT$. Isaac thinks making the flag will be difficult because there are three different triangles and two trapezoids in the flag. Olga insists that by creating only one triangle template and using a bit of paint for the sunset and horizontal lines, they can create the entire flag.

- Write a two-column proof to show that $\triangle SAB \cong \triangle TCB$.
- Is B the midpoint of \overline{AC} ? Explain.
- Draw a segment from point B to the midpoint of the top of the flag. Label this midpoint M .
- Write a two-column proof to show that $\triangle SMB \cong \triangle TMB$. (There is more than one way to prove this.)
- Olga and Isaac find that $m\angle SBT = 74^\circ$. Complete each statement with the correct angle measure.

a. $m\angle ABS =$ <u> ?</u>	b. $m\angle CBT =$ <u> ?</u>
c. $m\angle SAB =$ <u> ?</u>	d. $m\angle TSB =$ <u> ?</u>
e. $m\angle TCB =$ <u> ?</u>	f. $m\angle STB =$ <u> ?</u>
g. $m\angle ASB =$ <u> ?</u>	h. $m\angle CTB =$ <u> ?</u>