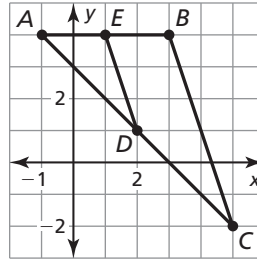


# 6.5

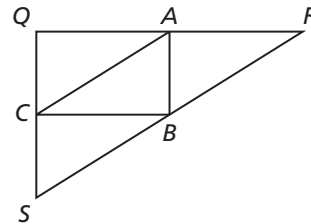
## Practice A

In Exercises 1–5, use the graph of  $\triangle ABC$ .



1. In  $\triangle ABC$ , show that the midsegment  $\overline{ED}$  is parallel to  $\overline{BC}$  and that  $ED = \frac{1}{2}BC$ .
2. Find the coordinates of the endpoints of midsegment  $\overline{EF}$ , which is opposite  $\overline{AC}$ .
3. Show that  $\overline{EF}$  is parallel to  $\overline{AC}$  and that  $EF = \frac{1}{2}AC$ .
4. State the coordinates of the endpoints of midsegment  $\overline{DF}$ .
5. Show that  $\overline{DF}$  is parallel to  $\overline{AB}$  and  $DF = \frac{1}{2}AB$ .

In Exercises 6–11, use  $\triangle QRS$  where **A**, **B**, and **C** are the midpoints of the sides.



6. When  $AB = 16$ , what is  $QS$ ?
7. When  $SR = 68$ , what is  $CA$ ?
8. When  $SR = 46$ , what is  $BR$ ?
9. When  $CA = 3x - 1$  and  $SR = 5x + 4$ , what is  $CA$ ?
10. When  $QS = 6x$  and  $CS = 5x - 8$ , what is  $AB$ ?
11. When  $QR = 5x + 2$  and  $CB = 2x + 5$ , what is  $AR$ ?
12. Your friend claims that because each midsegment is half as long as the corresponding side of the triangle, the perimeter of the midsegment triangle is half the perimeter of the original triangle. Is your friend correct? Explain your reasoning.
13. A building has the shape of a pyramid with a square base. The midsegment parallel to the ground of each triangular face of the pyramid has a length of 58 feet. Find the length of the base the pyramid.

