Classroom Exercises

1. Name each figure shown that appears to be:
  a. a parallelogram
  b. a rectangle
  c. a rhombus
  d. a square
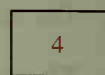
2. Name each figure that is *both* a rectangle *and* a rhombus.

**3.** Name each figure that is a rectangle but not a square.

4. Name each figure that is a rhombus but not a square.

5. When you know that one angle of a parallelogram is a right angle, you can prove that the parallelogram is a rectangle. Draw a diagram and explain.

6. When you know that two consecutive sides of a parallelogram are congruent, you can prove that the parallelogram is a rhombus. Draw a diagram and explain.

7. Given: Rhombus $EFGH$
  a. F, being equidistant from E and G, must lie on the _?_ of $\overline{EG}$.
  b. H, being equidistant from E and G, must lie on the _?_ of $\overline{EG}$.
  c. From (a) and (b) you can deduce that $\overline{FH}$ is the _?_ of $\overline{EG}$.
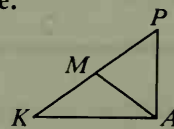 **d.** State the theorem of this section that you have just proved.
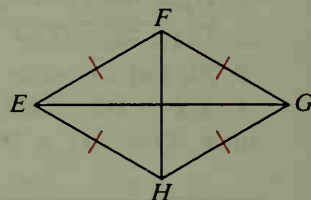
$\angle KAP$ is a right angle, and $\overline{AM}$ is a median. Complete.

8. If $MP = 6\frac{1}{2}$, then $MA = $ _?_.

9. If $MA = t$, then $KP = $ _?_.

10. If $m \angle K = 40$, then $m \angle KAM = $ _?_.

11. In the diagrams below, the red figures are formed by joining the midpoints of the sides of the quadrilaterals.
  a. What seems to be the common property of the red figures?
  b. Describe how you would prove your answer to part (a).