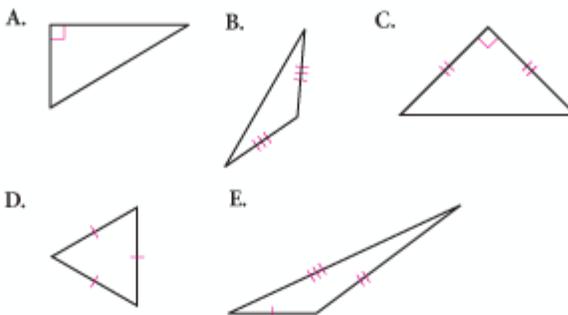




# EXERCISES

For Exercises 1–4, match the term on the left with its figure on the right.

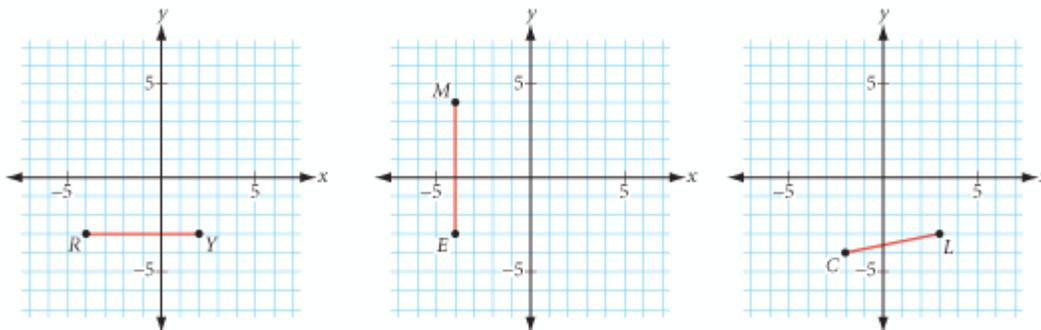
1. Equilateral triangle
2. Scalene right triangle
3. Isosceles right triangle
4. Isosceles obtuse triangle



For Exercises 5–9, sketch and label the figure. Mark the figures.

5. Isosceles acute triangle  $ACT$  with  $AC = CT$
6. Scalene triangle  $SCL$  with angle bisector  $CM$
7. Isosceles right triangle  $CAR$  with  $m\angle CRA = 90^\circ$
8. Two different isosceles triangles with perimeter  $4a + b$
9. Two noncongruent triangles, each with side 6 cm and an angle measuring  $40^\circ$
10. Use your ruler and protractor to draw an isosceles acute triangle with base  $AC$  and vertex angle  $B$ .
11. Use your ruler and protractor to draw an isosceles obtuse triangle  $ZAP$  with base angles  $A$  and  $Z$ .

For Exercises 12–14, use the graphs below. Can you find more than one answer?



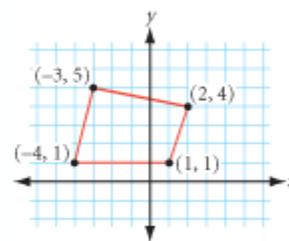
12. Locate a point  $L$  so that  $\triangle LRY$  is an isosceles triangle.
13. Locate a point  $O$  so that  $\triangle MOE$  is an isosceles right triangle.
14. Locate a point  $R$  so that  $\triangle CRL$  is an isosceles right triangle.

15. Use your ruler and protractor to draw a triangle with one side 9 cm long and an adjacent angle measuring  $45^\circ$ . Explain your method. Can you draw a second triangle with the given measures that is not congruent to the first?
16. Use your ruler and protractor to draw a triangle with one angle measuring  $40^\circ$  and an opposite side 10 cm long. Explain your method. Can you draw a second triangle with the given measures that is not congruent to the first?

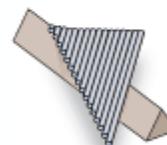
## Review

For Exercises 17–21, tell whether the statement is true or false. For each false statement, sketch a counterexample or explain why the statement is false.

17. An acute angle is an angle whose measure is less than  $90^\circ$ .
18. If two lines intersect to form a right angle, then the lines are perpendicular.
19. A diagonal is a line segment that connects any two vertices of a polygon.
20. A ray that divides the angle into two angles is the angle bisector.
21. An obtuse triangle has exactly one angle whose measure is greater than  $90^\circ$ .
22. Use the ordered pair rule  $(x, y) \rightarrow (x + 1, y - 3)$  to relocate the four vertices of the given quadrilateral. Connect the four new points to create a new quadrilateral. Do the two quadrilaterals appear congruent? Check your guess with tracing paper or patty paper.



23. Suppose a set of thin rods is glued together into a triangle as shown. How would you place the triangular arrangement of rods onto the edge of a ruler so that they balance? Explain why. 



For Exercises 24–26, sketch and carefully label the figure. Mark the congruent parts.

24. Pentagon  $PENTA$  with  $PE = EN$
25. Hexagon  $NGAXEH$  with  $\angle HEX \cong \angle EXA$
26. Equiangular quadrilateral  $QUAD$  with  $QU \neq QD$

## IMPROVING YOUR VISUAL THINKING SKILLS

### Pentominoes I

In Polyominoes, you learned about shapes called polyominoes. Polyominoes with five squares are called pentominoes. Can you find all possible pentominoes? One is shown at right. Use graph paper or square dot paper to sketch them.

