Section-01-05-Symmetries

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. A regular pentagon is centered about the origin and has a vertex at (0,5).

Which transformation maps the pentagon to itself?

a. a reflection across line \( m \)
b. a reflection across the \( x \)-axis
c. a clockwise rotation of 100° about the origin
d. a clockwise rotation of 144° about the origin

____ 2. A rectangle has vertices at (2,5), (6,5), (6,3), and (2,3).

Which transformation maps the rectangle to itself?

a. a reflection across the line \( y = \frac{1}{2} x + 2 \)
b. a reflection across the line \( y = -\frac{1}{2} x + 6 \)
c. a reflection across the line \( y = 4 \)
d. a rotation of 90° about the point (4,4)
3. Which figure has exactly two lines of symmetry?

   a.   b.   c.   d.

4. Which letter shown below has more than one line of symmetry?

   a.   b.   c.   d.

5. Which word shown below appears to have point symmetry (i.e. rotational symmetry of 180°)?

   a.   b.   c.   d.