Practice worksheet | Geometry and transformations

Testing/refining construction algorithms

Name: _____ Date: _____

6 questions | 18 marks

1. Test radius $r = 5$ cm on segment $AB = 10$ cm for the usual two-crossing bisector. [3 marks]

2. A factor-2 enlargement rule doubles x but leaves y unchanged. Test $P(2, 3)$. [3 marks]

3. Why is $P(4, 0)$ a poor only test for the faulty factor-2 rule $(x, y) \mapsto (2x, y)$? [3 marks]

4. Test the midpoint rule $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$ on $A(-4, 2)$, $B(2, 8)$. [2 marks]

5. A factor-$\frac{1}{2}$ rule rounds every image coordinate to a whole number. Test $P(1, 3)$ and refine the rule. [3 marks]

6. Give three useful types of test for a bisector construction and explain why tests alone are not a proof. [4 marks]