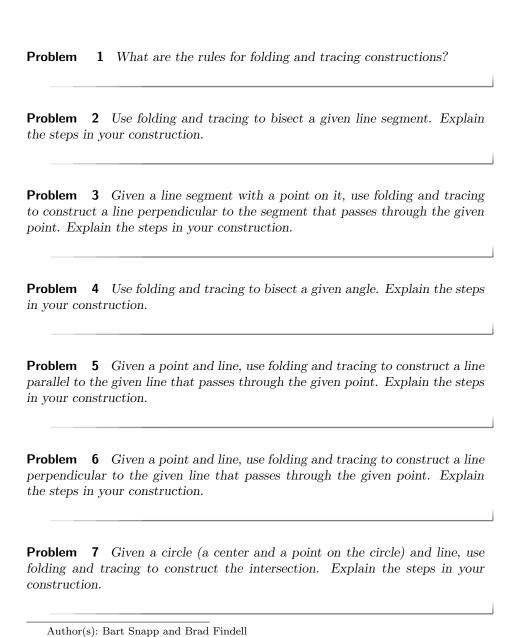# Proof by Picture

Short-answer proofs by pictures.

Problem   1   *What are the rules for folding and tracing constructions?*

Problem   2   *Use folding and tracing to bisect a given line segment. Explain the steps in your construction.*

Problem   3   *Given a line segment with a point on it, use folding and tracing to construct a line perpendicular to the segment that passes through the given point. Explain the steps in your construction.*

Problem   4   *Use folding and tracing to bisect a given angle. Explain the steps in your construction.*

Problem   5   *Given a point and line, use folding and tracing to construct a line parallel to the given line that passes through the given point. Explain the steps in your construction.*

Problem   6   *Given a point and line, use folding and tracing to construct a line perpendicular to the given line that passes through the given point. Explain the steps in your construction.*

Problem   7   *Given a circle (a center and a point on the circle) and line, use folding and tracing to construct the intersection. Explain the steps in your construction.*

Problem 8 *Given a line segment, use folding and tracing to construct an equilateral triangle whose edge has the length of the given segment. Explain the steps in your construction.*

Problem 9 *Explain how to use folding and tracing to transfer a segment.*

Problem 10 *Given an angle and some point, use folding and tracing to copy the angle so that the new angle has as its vertex the given point. Explain the steps in your construction.*

Problem 11 *Explain how to use folding and tracing to construct envelope of tangents for a parabola.*

Problem 12 *Explain how to use folding and tracing to trisect a given angle.*

Problem 13 *Use folding and tracing to construct a square. Explain the steps in your construction.*

Problem 14 *Use folding and tracing to construct a regular hexagon. Explain the steps in your construction.*

Problem 15 *Given a length of 1, construct a triangle whose perimeter is a multiple of 6. Explain the steps in your construction.*

Problem 16 *Construct a 30-60-90 right triangle. Explain the steps in your construction.*

Problem 17 *Given a length of 1, construct a triangle with a perimeter of $3 + \sqrt{5}$. Explain the steps in your construction.*