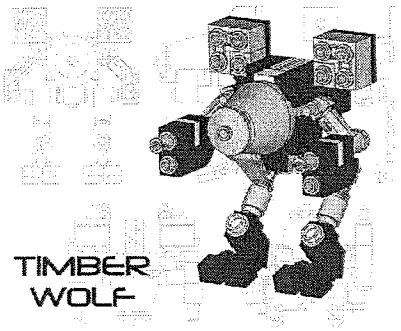
# 6.14 Construction Blueprints

*A Practice Understanding Task*

For each of the following straightedge and compass constructions, illustrate or list the steps for completing the construction and give an explanation for why the construction works. You explanations may be based on rigid-motion transformations, congruent triangles, or properties of quadrilaterals.






| Purpose of the construction | Illustration and/or steps for completing the construction | Justification of why this construction works |
|---|---|---|
| Copying a segment | 1. Set the span of the compass to match the distance between the two endpoints of the segment.<br>2. Without changing the span of the compass, draw an arc on a ray centered at the endpoint of the ray. The second endpoint of the segment is where the arc intersects the ray. | The given segment and the constructed segment are radii of congruent circles. |
| Copying an angle | | |
| Bisecting a segment | | |
| Bisecting an angle | | |
| Constructing a perpendicular bisector of a line segment | | |
| Constructing a perpendicular to a line through a given point | | |

| | | |
|---|---|---|
| Constructing a line parallel to a given line through a given point | | |
| Constructing an equilateral triangle | | |
| Constructing a regular hexagon inscribed in a circle | | |