

Lesson Summary

The compass is a tool that can be used for many purposes that include the following:

- Constructing circles.
- Measuring and marking a segment of equal length to another segment.
- Confirming that the radius of the center of a circle to the circle itself remains constant no matter where you are on the circle.

Problem Set

Use a ruler, protractor, and compass to complete the following problems.

1. Draw a segment AB that is 5 cm in length and perpendicular to segment CD , which is 2 cm in length.
2. Draw supplementary angles so that one angle is 26° . Label each angle with its measurement.
3. Draw $\triangle ABC$ so that $\angle B$ has a measurement of 100° .
4. Draw a segment AB that is 3 cm in length. Draw a circle with center A and radius AB . Draw a second circle with diameter AB .
5. Draw an isosceles $\triangle ABC$. Begin by drawing $\angle A$ with a measurement of 80° . Use the rays of $\angle A$ as the equal legs of the triangle. Choose a length of your choice for the legs, and use your compass to mark off each leg. Label each marked point with B and C . Label all angle measurements.
6. Draw an isosceles $\triangle DEF$. Begin by drawing a horizontal segment DE that is 6 cm in length. Use your protractor to draw $\angle D$ and $\angle E$ so that the measurements of both angles are 30° . If the non-horizontal rays of $\angle D$ and $\angle E$ do not already cross, extend each ray until the two rays intersect. Label the point of intersection F . Label all side and angle measurements.
7. Draw a segment AB that is 7 cm in length. Draw a circle with center A and a circle with center B so that the circles are not the same size, but do intersect in two distinct locations. Label one of these intersections C . Join A to C and B to C to form $\triangle ABC$.
8. Draw an isosceles trapezoid $WXYZ$ with two equal base angles, $\angle W$ and $\angle X$, that each measures 110° . Use your compass to create the two equal sides of the trapezoid. Leave arc marks as evidence of the use of your compass. Label all angle measurements. Explain how you constructed the trapezoid.