Lesson 6: Drawing Geometric Shapes

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 $△ABC$ so that $∠B$ 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 $△ABC$. Begin by drawing $∠A$ with a measurement of $80°$. Use the rays of $∠A$ 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 $△DEF$. Begin by drawing a horizontal segment $DE$ that is $6 cm$ in length. Use your protractor to draw $∠D$ and $∠E$ so that the measurements of both angles are $30°$. If the non-horizontal rays of $∠D$ and $∠E$ 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 $△ABC$.
8. Draw an isosceles trapezoid $WXYZ$ with two equal base angles, $∠W$ and $∠X$, 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.