Constructions

**CORE STANDARDS**

HSG.C.A.3

HSG.C.A.4

LESSON

**6-5**

OBJECTIVE **1. SWBAT construct the following with compass & straightedge:**

1. **Circle inscribed in a triangle (incircle)**
2. **Circle circumscribed about a triangle (circumcircle)**

NOTES

1. **Line tangent to a circle from a given exterior point**

Rules of Geometric Constructions

1. Constructions begin with at least 2 points, but can start with given constructed objects such as lines, circles or points.
2. When drawing a circle with the compass, both ends of the compass must be placed on constructed points.
3. When drawing a line with the straightedge, the line must be drawn through 2 constructed points.
4. A constructed point exists at the intersection of any lines and/or circles.

EXAMPLES

**1.** Construct the circumcircle. **2.** Construct a line from point D tangent to circle E.





**3.** Construct the incircle.



PRACTICE **6-5** NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[SHOW YOUR WORK]

Perform each construction using a compass & straightedge. Do not erase any construction lines or arcs.



1. Construct the circumcircle for each triangle below.



1. Construct both tangent lines from point P to circle Q.



1. Construct the incircle for each triangle below.





1. Given the constructed objects below, construct a square with one side on  and one vertex at C.