

Modeling Example & Process

While working in a group make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

1. A lost cell phone needs to be found. Fortunately, three cell phone towers detect the signal. A coordinate system used by the city indicates that the cell towers are located at (x, y) coordinates, measured in meters from the center of town:

- Cell tower 1 is at position $(1200, 200)$
- Cell tower 2 is at position $(800, -450)$
- Cell tower 3 is at position $(-100, 230)$

Tower 1 detect the signal at a distance of 1072.7 meters. Tower 2 detects the signal at a distance of 1213.7 meters. Tower 3 detects the signal at a distance of 576.6 meters. Create an approach for finding the location of the cell phone. Explain your reasoning.

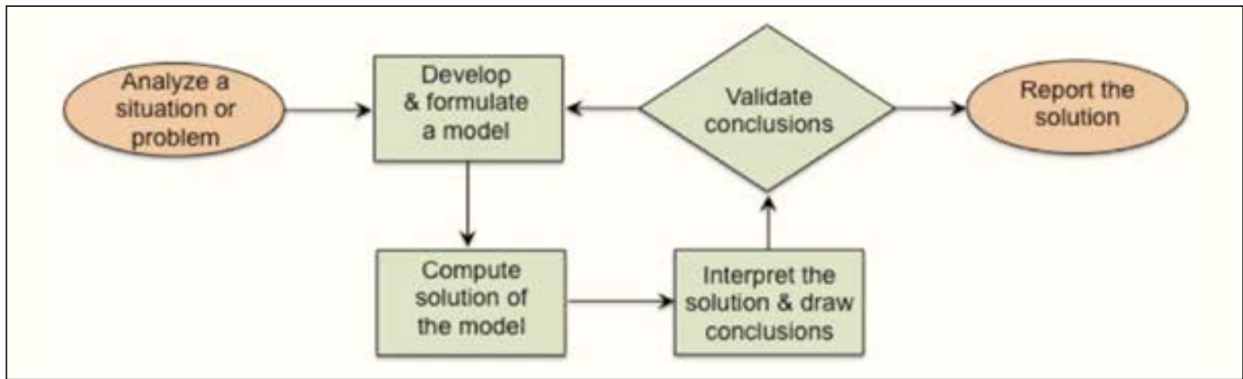


Fig. 1 Element titles within the modeling cycle (CCSSI 2010, p. 72) have been expanded to be more descriptive.

Figure 1: Process described by C. Oropesa & R. Cortez in “Modeling: A Structured Process”