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| **Content: Investigating Similar Polygons and Similar Triangles** | | | |
| Knows that similar polygons have the same shape  “These triangles have a very different shape, so they cannot be similar.” | Identifies scale factor for two similar polygons by determining the ratio between pairs of corresponding sides  “I can multiply the side lengths of the first rectangle by 3 to get the corresponding side lengths of a larger rectangle. These rectangles are similar and the scale factor is 3.” | Determines and applies the scale factor between two polygons to calculate the length of an unknown side  “These corresponding sides are related by a scale factor of 5. So, if the length of this side is 8 cm, the length of the corresponding side is  8 cm × 5, or 40 cm.” | Applies understanding of similar polygons to real-world scenarios  “The sun hits these two objects at the same angle, so the triangles have a common angle. Since both objects are perpendicular to the ground, I can draw two similar right triangles to represent the situation.” |
| **Observations/Documentation** | | | |
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| **Competency: Connecting** | | | |
| Identifies and visualizes similar polygons in the real-world  “I see that similar triangles are made between the shadows.” | Models a real-world situation by drawing two similar polygons with correctly labelled measures  “There are two overlapping similar triangles in the image. I drew them separately to make it easier to show corresponding sides.” | Uses properties of similar polygons to solve for unknown measures in real-world situations  “I know the length of both shadows, and since they are corresponding sides in the right triangles, I can calculate the scale factor. Then I can use the height of the shorter side and the scale factor to determine the height of the taller object.” | Recognizes the importance of accurate measures of both angles and side lengths  “I know that when shadows are used to calculate a height, we assume that both objects are at the same angle to the ground. This may not be the case as an object may lean a bit. If the height of the shorter object is not measured accurately, this could make the height of the taller object more inaccurate when that length is scaled up.” |
| **Observations/Documentation** | | | |
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