

Activity 1 Assessment

Investigating Similar Triangles and Similar Polygons

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 $8 \text{ cm} \times 5$, 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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Activity 1 Assessment

Investigating Similar Triangles and Similar Polygons

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