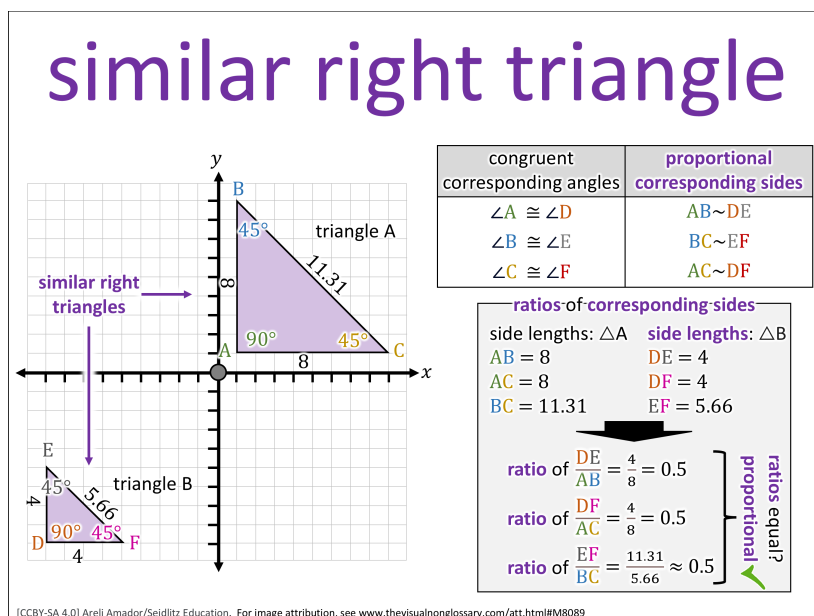


Ramps That Match

The purpose for reading is to understand how angles and ratios are used to determine if triangles form a similar right triangle.

Pay Attention To:

- Angles in each triangle
- How corresponding sides match
- The ratio between side length values
- When ratios stay the same
- When triangles are proportional



At a skate park, two ramps sit next to each other. One ramp is small, and the other is big. Both ramps go up at the same steepness. A group of students draw each ramp as a triangle. They see that both shapes are right triangles because each one has a 90-degree angle where the ramp meets the ground. When they look at the angles, they see the triangles match. Even though one triangle is bigger, the shape is the same.

The students compare the **corresponding sides**. On the smaller triangle, the **side length** is 4 units. On the larger triangle, the matching **side length** is 8 units. They divide 4 by 8 to find the **ratio**. They get 0.5. They check another pair and still get 0.5. The **ratios** are the same, and the angles are the same. This means the triangles are **proportional** and form a **similar right triangle**.

The students then look at two new ramps. One ramp goes up 3 units and across 6 units. The other ramp goes up 5 units and across 12 units. The students draw triangles again. They compare the **corresponding sides** and divide to find the **ratios**.

They also think about how steep each ramp is to understand the angles. They must decide if these ramps form a **similar right triangle**.

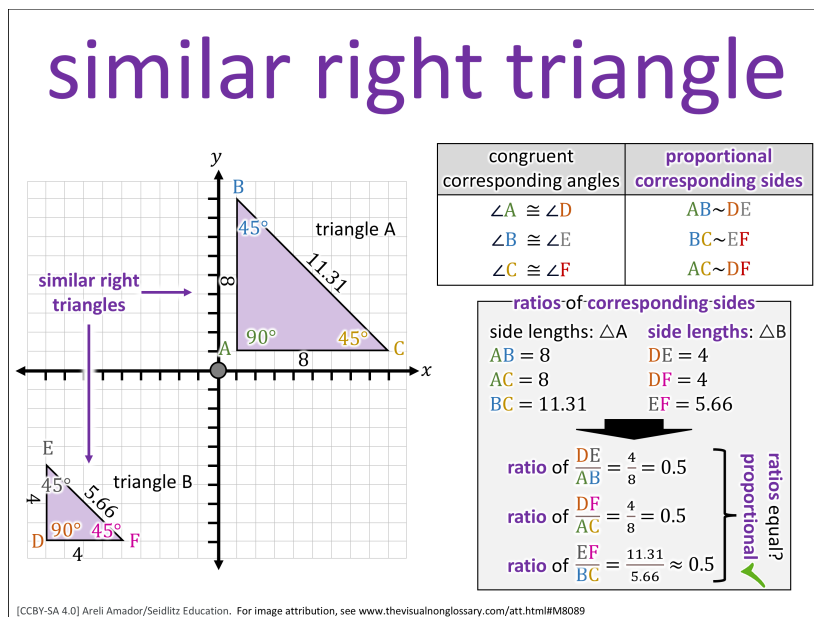


Ramps That Match

The purpose for reading is to understand how angles and ratios are used to determine if triangles form a similar right triangle.

Pay Attention To:

- Angles in each triangle
- How corresponding sides match
- The ratio between side length values
- When ratios stay the same
- When triangles are proportional



At a skate park, two ramps sit next to each other. One ramp is smaller, and the other is larger, but both rise at the same steepness. A group of students draw each ramp as a triangle. They notice that both shapes are right triangles because each one has a 90-degree angle where the ramp meets the ground. When they compare the angles, they see that the triangles have the same angle measures. Even though the triangles are different sizes, they have the same shape.

The students then compare the **corresponding sides** of the two triangles. On the smaller triangle, each leg has a **side length** of 4 units. On the larger triangle, the matching sides have a **side length** of 8 units. They compare the **ratio** of the smaller triangle to the larger triangle. For each pair of matching sides, 4 compared to 8 gives a value of 0.5. The **ratios** are the same for each pair of **corresponding sides**, and the angles are the same, so the triangles follow the same pattern. This shows the triangles are **proportional** and form a **similar right triangle**.

In another part of the park, the students see two new ramps. One ramp has sides that measure 3 units and 6 units, and the other ramp has sides that measure 5 units and 12 units. The students draw triangles again and begin comparing the **corresponding sides** and the **ratios**. They also think about how steep each ramp is to understand the angles. This time, they must decide if these ramps form a **similar right triangle** based on what they observed before.

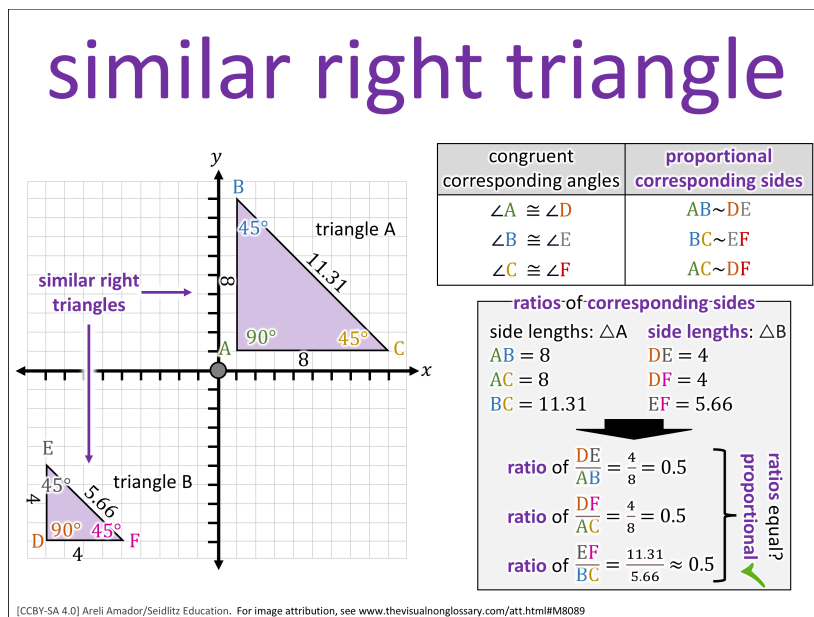


Ramps That Match

The purpose for reading is to understand how angles and ratios are used to determine if triangles form a similar right triangle.

Pay Attention To:

- Angles in each triangle
- How corresponding sides match
- The ratio between side length values
- When ratios stay the same
- When triangles are proportional



At a skate park, two ramps sit next to each other. One ramp is smaller, and the other is larger, but both rise at the same steepness. A group of students represents each ramp as a triangle and identifies that both are right triangles with a 90-degree angle. They analyze the angle measures and determine that the triangles are the same shape despite having different sizes.

The students examine the **corresponding sides** across the two triangles. The smaller triangle has a **side length** of 4 units, while the larger triangle has a **side length** of 8 units. Instead of calculating immediately, they look for patterns in how the **side length** values change between the triangles. They consider whether the **ratio** between each pair of **corresponding sides** remains consistent. The relationship between the side lengths and the matching angles suggests a consistent pattern. From this, they conclude the triangles form a **similar right triangle**.

The students then evaluate a new pair of ramps with side lengths of 3 and 6, and 5 and 12. They represent these ramps as triangles and analyze the **corresponding**

sides and the **ratios**. They also consider how the steepness of each ramp relates to the angle measures. Using these relationships, they must determine whether these ramps form a **similar right triangle**.

