

Louisville Slugger: Similar Shadows

Welcome to “Similar Shadows.” This interactive opens to an image of a small bat and a large bat.

Click “Use Ruler” and you’ll see two rulers—a short vertical ruler and a longer horizontal ruler. Their purpose is to measure the small bat and the shadows. Use the cursor to move the small bat and the rulers.

Clicking “View Triangles” shows you the similar triangles formed by the objects and their shadows.

Click “Select an item” or “Select a time,” to choose a different option. The questions on the right will automatically change to fit the new comparison.

“Check Answers” reveals whether the answers are correct. There is a small margin of error, since you might come up with slightly different answers. The exact answer will pop up in place of your approximate answer.

Text of Hint Boxes for “Similar Shadows”

The hint boxes include interactive directions and mathematical hints to assist with calculations.

Hint 1: Move the bat around! Select rulers to measure! View the triangles!

Hint 2: Divide the height of the bat by the length of the shadow.

Hint 3: Estimate its height relative to the little bat. To calculate, multiply the object’s shadow length by the answer to #3.

Hint 4: Divide the height of the tall object by the length of its shadow.



“Similar Shadows” Questions

The height of the little bat will not change throughout the interactive. If you begin by measuring the little bat and its shadow as they appear when you open the interactive, you can determine the unknown heights of the larger objects at that initial setting. But what happens to the length of the shadows and the value of the ratios when you select a different time of day?

Initial Setting

Little Bat and Big Bat

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Street Lamp

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Basketball Goal

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____



Little Bat and Sign

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and The Babe

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____



Dawn

Little Bat and Big Bat

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Street Lamp

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Basketball Goal

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____



Little Bat and Sign

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2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and The Babe

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____



Midmorning

Little Bat and Big Bat

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Street Lamp

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Basketball Goal

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____



Little Bat and Sign

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2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and The Babe

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____



Late Afternoon

Little Bat and Big Bat

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Street Lamp

1. How tall is the little bat? _____
2. How long is its shadow? _____
3. What's the decimal value of this ratio: bat's height to shadow's length? _____
4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

Little Bat and Basketball Goal

1. How tall is the little bat? _____
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Little Bat and The Babe

1. How tall is the little bat? _____
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4. How long is the big object's shadow? _____
5. How tall is the big object? _____
6. What's the decimal value of this ratio: object's height to shadow's length? _____

