

**Scale,  
Scale Factor, and  
Indirect Measurement**

**Vocabulary**

**Scale:**

**Scale Factor:**

**Scale**

**Example 1:**

On a map of Florida, the distance between two cities is 10.5 cm. What is the actual distance between them if the scale is 3 cm = 80 mi?

**What two measurements are we comparing?**

**Set up a proportion**

**Cross multiply and solve for x.**

**Scale**

**Example 2**

A model house is 16 cm wide. If it was built with a scale of 4 cm : 15 ft, then how wide is the actual house?

**Example 3**

Johnny used a map to get to his grandma's house that used a scale of 2 cm : 85 mi. If Johnny actually drove 637.5 mi, how far apart was Johnny's house from his grandma's house on the map?

**Scale Factor**

**Example 1**

A photograph was enlarged and made into a poster using a scale factor of 5. The photograph is 5 inches by 11 inches. What will the perimeter of the poster be?



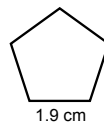
**Scale Factor**

**Example 2**

A club house is 16 ft. long. On a scale model of the club house, the club house is 8 in. What is the scale of the model?

**Example 3**

In the scale drawing, each side is 1.9 cm long. If the drawing is going to be enlarged by a scale factor of 20, what is the perimeter of the enlarged object?



# Notes- Scale and Scale Factor.notebook

## Indirect Measurement

using proportions to compute distances that are difficult to measure directly.

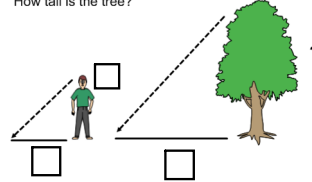
Steps:

1. Draw a picture
2. Set up a \_\_\_\_\_ to solve
3. Solve for the \_\_\_\_\_

## Indirect Measurement

### Example 1

A person that is 5ft tall that casts a shadow of 4ft is standing next to a tree that casts a shadow of 10ft. How tall is the tree?



## Indirect Measurement

### Example 2

A 6.5 ft tall car standing next to an adult elephant casts a 33.2 ft shadow. If the adult elephant casts a shadow that is 51.5 ft long then how tall is it?

## Indirect Measurement

### Example 4

A fire hydrant 2.5 feet high casts a 5 foot shadow. How tall is a street light that casts a 26 foot shadow?

### Example 3

If a 42.9 ft tall flagpole casts a 253.1 ft long shadow then how long is the shadow that a 6.2 ft tall woman casts?

## Indirect Measurement

### Example 5

Find the value of h.

