





4. What is the altitude of the smaller triangle? \_\_\_\_\_

How do you know? \_\_\_\_\_

G. The two triangles are similar triangles. That means that the ratio of the altitude to the base of the smaller triangle equals the ratio of the altitude to the base of the larger triangle. We can express this with the formula  $a/b = c/d$ .

5. What is the ratio  $a/b$ ? (Hint: The distance between the pupils of the eyes,  $b$ , varies from person to person. For this investigation use 6 cm for  $b$ .)

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H. Use the formula from step G and your measurement from step E to calculate  $c$ .

6. What is the distance  $c$ ? \_\_\_\_\_

7. What does  $c$  represent? \_\_\_\_\_

I. Use the meter stick to measure the distance from your fingertip to the chalkboard.

8. What is the measured distance? \_\_\_\_\_

**Conclusions:**

1. How did your calculated distance  $c$  compare with the actual measured distance?

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2. What factors might account for any difference between the two distances?

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3. To report a distance  $d$  greater than yours, must an observer stand closer to or farther from the chalkboard than the observer in your pair? Why? \_\_\_\_\_

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