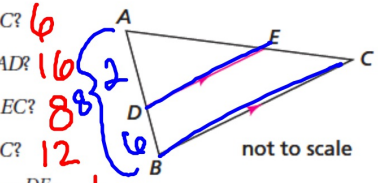
MDI:

In Exercises 1–5, $\overline{DE} \parallel \overline{BC}$.

1. If $AD = 1$, $AB = 3$, and $AE = 2$, what is AC? 6
2. If $AE = 4$, $AC = 5$, and $AB = 20$, what is AD? 16
3. If $AD = 3$, $DB = 2$, and $AE = 12$, what is EC? 8
4. If $AE = 1$, $AC = 4$, and $DE = 3$, what is BC? 12
5. If $AD = 2$ and $DB = 6$, what is the value of $\frac{DE}{BC}$? $\frac{1}{4}$



$= \frac{1}{4}$ $\frac{DE}{BC} = \frac{2}{8} = \frac{1}{4}$

$\frac{\text{Small } \triangle}{\text{big } \triangle}$

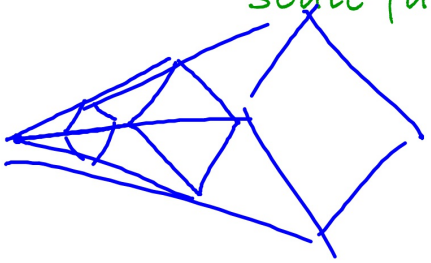
LAUNCH: Define the following words:

enlargements

reductions

scale factors

dilations

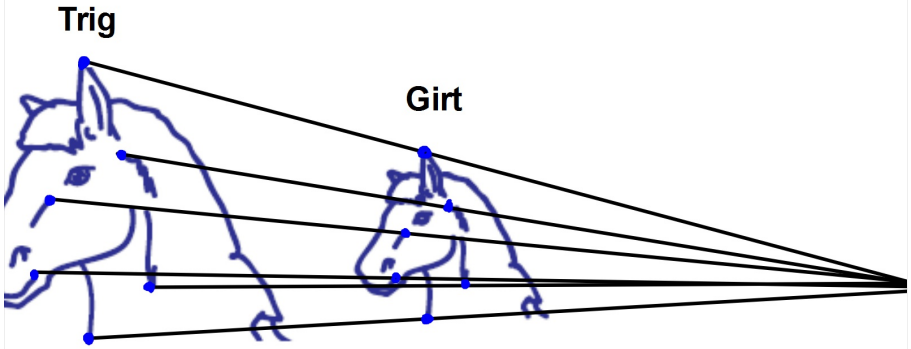


4.13 Getting Started

Objective:

- Explore ideas that are basic to the goals of this investigation.

Skip 4.11
4.12



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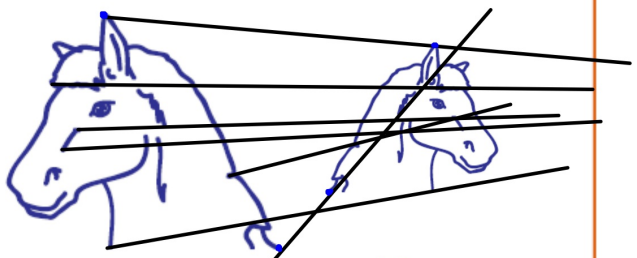
For You to Explore

1. Is Girt a dilated copy of Trig? If so, find the center of dilation. Yes
2. Is the picture of Girt similar to the picture of Trig? yes

   Here is another family portrait of Trig and Girt, this time in a different pose.



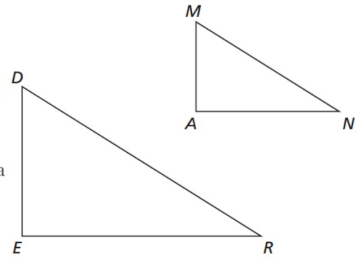
3. Is the picture of Girt still similar to the picture of Trig? Yes
4. Can you still dilate one picture onto the other? Explain. No
5. Expand the dilation definition of similar so you can say that even these two pictures are similar. Same shape

On Your Own

Homework: p.324 (6-9)

6. Look at your notes for Investigation 4A. Write your test for telling whether two figures are scaled copies of each other.
7. These two triangles are scaled copies of each other.

   List the angle measurements that are equal and the side lengths that are proportional.



8. If two polygons are dilations of each other, describe how to find the center of dilation. Is that center unique?
9. Will you always be able to find a center of dilation for two similar polygons? If so, describe how to do it. If not, sketch a counterexample.