Connect to Cartesian (Answers) Name:

Q1 How does $D(x)$ behave as you vary x? How is the behavior affected if you make the scale factor $s = -0.5$?

Q2 What do you notice now when you vary the independent variable? Compare the values on the two axes.

Q3 What transformation did the **Transfer** tool use? Why doesn't this transformation change the value?

Q4 What do you notice now when you vary the independent variable? As you vary x along the horizontal axis, how do the points $D(x)$ and $T(D(x))$ compare on the vertical axis? How do their measurements compare?

Q5 What do you notice about these lines as you vary the independent variable?

Q6 What happens to the intersection as you vary x, and what do you notice about its traces?

Q7 After you changed the translation vector how did the new traces compare to the old traces?

Q8 Draw your sketch of the traces for different values of v. What conjectures did you make and test?

Q9 What stayed the same for all the traces for different values of v? What changed for different values of v?

Q10 Explain your conclusions based on the dilation and translation you used to construct $T(D(x))$.

Q11 Draw your sketch of the traces for different scale factors. What conjectures did you make and test?

Q12 What stayed the same for all the traces for different values of s? What changed for different values of s?

Q13 Explain your conclusions in terms of the original dilation and translation functions.

Q14 Describe the investigation you did using pages 3 and 4.

Q15 What did you discover as you practiced matching mystery functions?