### Lesson 2 Practice Problems

1. The tortoise and the hare are having a race. After the hare runs 16 miles the tortoise has only run 4 miles.
* The relationship between the distance $x$ the tortoise “runs” in miles for every $y$ miles the hare runs is $y=4x$. Graph this relationship.
* 
1. The table shows a proportional relationship between the weight on a spring scale and the distance the spring has stretched.
	1. Complete the table.
	2. Describe the scales you could use on the $x$ and $y$ axes of a coordinate grid that would show all the distances and weights in the table.

| * distance (cm)
 | * weight (newtons)
 |
| --- | --- |
| * 20
 | * 28
 |
| * 55
 |  |
|  | * 140
 |
| * 1
 |  |

1. Find a sequence of rotations, reflections, translations, and dilations showing that one figure is similar to the other. Be specific: give the amount and direction of a translation, a line of reflection, the center and angle of a rotation, and the center and scale factor of a dilation.
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* (From Unit 2, Lesson 6.)
1. Andre said, “I found two figures that are congruent, so they can’t be similar.”
* Diego said, “No, they are similar! The scale factor is 1.”
* Do you agree with either of them? Use the definition of similarity to explain your answer.
* (From Unit 2, Lesson 6.)



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