### Lesson 6 Practice Problems

1. Find a sequence of rigid motions and dilations that takes square $ABCD$ to square $EFGH$.
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1. Quadrilaterals $Q$ and $P$ are similar.
	1. What is the scale factor of the dilation that takes $P$ to $Q$?
	2. What is the scale factor of the dilation that takes $Q$ to $P$?
* 
1. What is our definition of similarity?
	1. If 2 figures have the same angles, then they are similar.
	2. If 2 figures have proportional side lengths, then they are similar.
	3. If there is a sequence of rigid transformations taking one figure to another, then they are similar.
	4. If there is a sequence of rigid transformations and dilations that take one figure to the other, then they are similar.
2. Triangle $DEF$ is formed by connecting the midpoints of the sides of triangle $ABC$. The lengths of the sides of $DEF$ are shown. What is the length of $BC$?
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	1. 3 units
	2. 4 units
	3. 6 units
	4. 8 units
* (From Unit 3, Lesson 5.)
1. If $AB$ is 12, what is the length of $A^{′}B^{′}$?
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* (From Unit 3, Lesson 5.)
1. Right angle $ABC$ is taken by a dilation with center $P$ and scale factor $\frac{1}{2}$ to angle $A^{′}B^{′}C^{′}$. What is the measure of angle $A^{′}B^{′}C^{′}$?
* (From Unit 3, Lesson 4.)
	1. Dilate point $C$ using center $D$ and scale factor $\frac{3}{4}$.
	2. Dilate segment $AB$ using center $D$ and scale factor $\frac{1}{2}$.
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* (From Unit 3, Lesson 4.)
1. A polygon has perimeter 12. It is dilated with a scale factor of $k$ and the resulting image has a perimeter of 8. What is the scale factor?
	1. $\frac{1}{2}$
	2. $\frac{2}{3}$
	3. $\frac{3}{4}$
	4. $\frac{4}{3}$
* (From Unit 3, Lesson 3.)
1. Select **all** the statements that *must*be true.
	1. Parallelograms have four congruent sides.
	2. Both sets of opposite sides of a parallelogram are parallel and congruent.
	3. A trapezoid is a parallelogram.
	4. Diagonals of a parallelogram bisect each other.
	5. Diagonals of a parallelogram are congruent.
* (From Unit 2, Lesson 13.)



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