### Lesson 15 Practice Problems

1. Consider the parallelogram with vertices at $(0,0),(4,0),(2,3),$ and $(6,3)$. Where do the diagonals of this parallelogram intersect?
	1. $(3,1.5)$
	2. $(4,2)$
	3. $(2,4)$
	4. $(3.5,3)$
2. What is the midpoint of the line segment with endpoints $(1,-2)$ and $(9,8)$?
	1. $(3,5)$
	2. $(4,3)$
	3. $(5,3)$
	4. $(5,5)$
3. Graph the image of triangle $ABC$ under a dilation with center $A$ and scale factor $\frac{2}{3}$.
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1. A quadrilateral has vertices $A=(0,0),B=(2,4),C=(0,5),$ and $D=(-2,1)$. Prove that $ABCD$ is a rectangle.
* (From Unit 6, Lesson 14.)
1. A quadrilateral has vertices $A=(0,0),B=(1,3),C=(0,4),$ and $D=(-1,1)$. Select the most precise classification for quadrilateral $ABCD$.
	1. quadrilateral
	2. parallelogram
	3. rectangle
	4. square
* (From Unit 6, Lesson 14.)
1. Write an equation whose graph is a line perpendicular to the graph of $x=-7$ and which passes through the point $(-7,1)$.
* (From Unit 6, Lesson 12.)
1. Graph the equations $(x+1)^{2}+(y−1)^{2}=64$ and $y=1$. Where do they intersect?
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* (From Unit 6, Lesson 13.)
1. A parabola has a focus of $(2,5)$ and a directrix of $y=1$. Decide whether each point on the list is on this parabola. Explain your reasoning.
	1. $(-1,5)$
	2. $(2,3)$
	3. $(6,6)$
* (From Unit 6, Lesson 7.)



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