### Lesson 15 Practice Problems

1. Consider the parallelogram with vertices at $\left(0,0\right),\left(4,0\right),\left(2,3\right),$ and $\left(6,3\right)$. Where do the diagonals of this parallelogram intersect?
	1. $\left(3,1.5\right)$
	2. $\left(4,2\right)$
	3. $\left(2,4\right)$
	4. $\left(3.5,3\right)$
2. What is the midpoint of the line segment with endpoints $\left(1,-2\right)$ and $\left(9,8\right)$?
	1. $\left(3,5\right)$
	2. $\left(4,3\right)$
	3. $\left(5,3\right)$
	4. $\left(5,5\right)$
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 $A=\left(0,0\right),B=\left(2,4\right),C=\left(0,5\right),$ and $D=\left(-2,1\right)$. Prove that $ABCD$ is a rectangle.
* (From Unit 6, Lesson 14.)
1. A quadrilateral has vertices $A=\left(0,0\right),B=\left(1,3\right),C=\left(0,4\right),$ and $D=\left(-1,1\right)$. 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 $\left(-7,1\right)$.
* (From Unit 6, Lesson 12.)
1. Graph the equations $\left(x+1\right)^{2}+\left(y−1\right)^{2}=64$ and $y=1$. Where do they intersect?
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* (From Unit 6, Lesson 13.)
1. A parabola has a focus of $\left(2,5\right)$ and a directrix of $y=1$. Decide whether each point on the list is on this parabola. Explain your reasoning.
	1. $\left(-1,5\right)$
	2. $\left(2,3\right)$
	3. $\left(6,6\right)$
* (From Unit 6, Lesson 7.)



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