### Lesson 16 Practice Problems

1. Triangle $ABC$ and its medians are shown.
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* Select **all** statements that are true.
	1. The medians intersect at $\left(\frac{1}{3},2\right)$.
	2. The medians and altitudes are the same for this triangle.
	3. An equation for median $AE$ is $y=\frac{6}{7}(x+2)$.
	4. Point $G$ is $\frac{2}{3}$ of the way from $A$ to $E$.
	5. Median $BF$ is congruent to median $CD$.
1. Triangle $ABC$ has vertices at $(-2,0),(-1,6),$ and $(6,0)$. What is the point of intersection of the triangle’s medians?
2. Triangle $EFG$ and its medians are shown.
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* Match each pair of segments with the ratios of their lengths.
	1. $GK:KJ$
	2. $GH:HF$
	3. $HK:KE$
	4. $1:1$
	5. $1:2$
	6. $2:1$
1. Given $A=(-3,2)$ and $B=(7,-10)$, find the point that partitions segment $AB$ in a $1:4$ ratio.
* (From Unit 6, Lesson 15.)
1. Graph the image of quadrilateral $ABCD$ under a dilation using center $A$ and scale factor $\frac{1}{3}$.
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* (From Unit 6, Lesson 15.)
1. A trapezoid is a quadrilateral with at least one pair of parallel sides. Show that the quadrilateral formed by the vertices $(0,0),(5,2),(10,10),$ and $(0,6)$ is a trapezoid.
* (From Unit 6, Lesson 14.)
1. Here are the graphs of the circle centered at $(0,0)$ with radius 6 units and the line given by $2x+y=11$. Determine whether the circle and the line intersect at the point $(3,5)$. Explain or show your reasoning.
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* (From Unit 6, Lesson 13.)
1. A parabola has focus $(-3,2)$ and directrix $y=-3$. The point $(a,5)$ is on the parabola. How far is this point from the focus?
	1. 8 units
	2. 5 units
	3. 3 units
	4. 2 units
* (From Unit 6, Lesson 8.)



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