### Lesson 13 Practice Problems

1. In right triangle $ABC$, altitude $CD$ is drawn to its hypotenuse. Select **all** triangles which must be similar to triangle $ABC$.
* 
	1. $ABC$
	2. $ACD$
	3. $BCD$
	4. $BDC$
	5. $CAD$
	6. $CBD$
1. In right triangle $ABC$, altitude $CD$ with length $h$ is drawn to its hypotenuse. We also know $AD=12$ and $DB=3$. What is the value of $h$?
* 
1. In triangle $ABC$ (*not* a right triangle), altitude $CD$ is drawn to side $AB$. The length of $AB$ is $c$. Which of the following statements must be true?
* 
	1. The measure of angle $ACB$ is the same measure as angle $B$.
	2. $b^{2}=c^{2}+a^{2}$.
	3. Triangle $ADC$ is similar to triangle $ACB$.
	4. The area of triangle $ABC$ equals $\frac{1}{2}h⋅c$.
1. Quadrilateral $ABCD$ is similar to quadrilateral $A^{′}B^{′}C^{′}D^{′}$. Write 2 equations that could be used to solve for missing lengths.
* (From Unit 3, Lesson 12.)
1. Segment $A^{′}B^{′}$ is parallel to segment $AB$.
	1. What is the length of segment $A^{′}A$?
	2. What is the length of segment $B^{′}B$?
* 
* (From Unit 3, Lesson 11.)
1. Lines $BC$ and $DE$ are both vertical. What is the length of $AD$?
* 
	1. 4.5
	2. 5
	3. 7.5
	4. 10
* (From Unit 3, Lesson 12.)
1. Triangle $DEF$ is formed by connecting the midpoints of the sides of triangle $ABC$. Select **all** true statements.
* 
	1. Triangle $BDE$ is congruent to triangle $EFC$
	2. Triangle $BDE$ is congruent to triangle $DAF$
	3. $BD$ is congruent to $FE$
	4. The length of $BC$ is 8
	5. The length of $BC$ is 6
* (From Unit 3, Lesson 5.)



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