### Lesson 14 Practice Problems

1. Which of the following are right triangles?
   1. Triangle with , , and
   2. Triangle with , , and
   3. Triangle with , , and
   4. Triangle with , , and
2. In right triangle , a square is drawn on each of its sides. An altitude is drawn to the hypotenuse  and extended to the opposite side of the square on . In class, we discussed Elena’s observation that and Diego’s observation that . Mai observes that these statements can be thought of as claims about the areas of rectangles.
   1. Which rectangle has the same area as ?
   2. Which rectangle has the same area as ?

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1. Andre says he can find the length of the third side of triangle and it is 5 units. Mai disagrees and thinks that the side length is unknown. Do you agree with either of them? Show or explain your reasoning.

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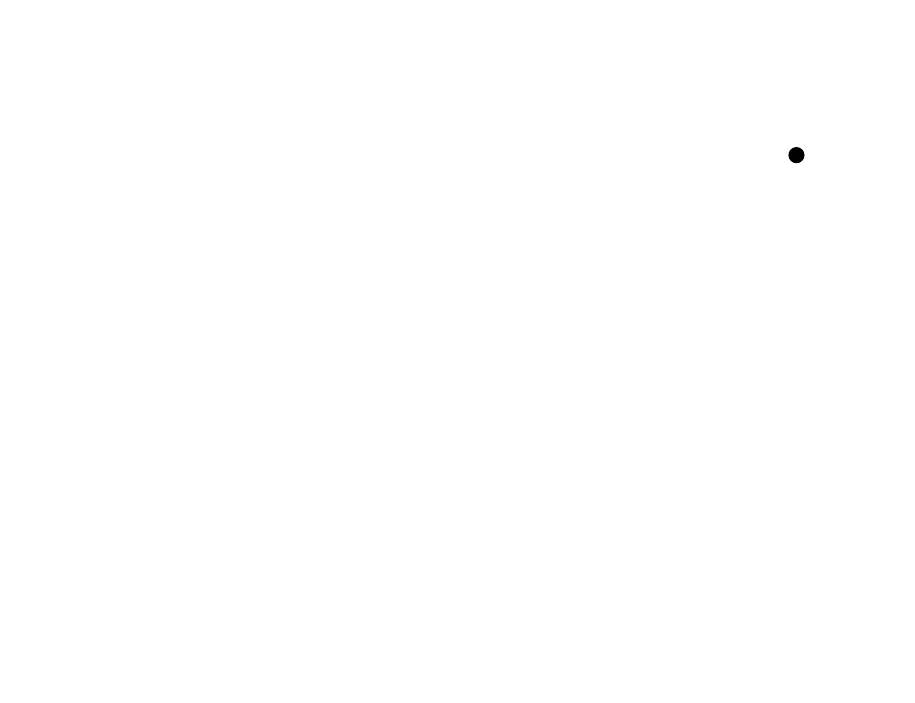
1. In right triangle , altitude is drawn to its hypotenuse. Find 2 triangles which must be similar to triangle .

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* (From Unit 3, Lesson 13.)

1. In right triangle , altitude with length 6 is drawn to its hypotenuse. We also know . What is the length of ?

* 
  1. 3
  2. 4
  3. 6
* (From Unit 3, Lesson 13.)

1. Lines  and are both vertical. What is the length of ?

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  1. 4.5
  2. 5
  3. 6
  4. 7.5
* (From Unit 3, Lesson 12.)

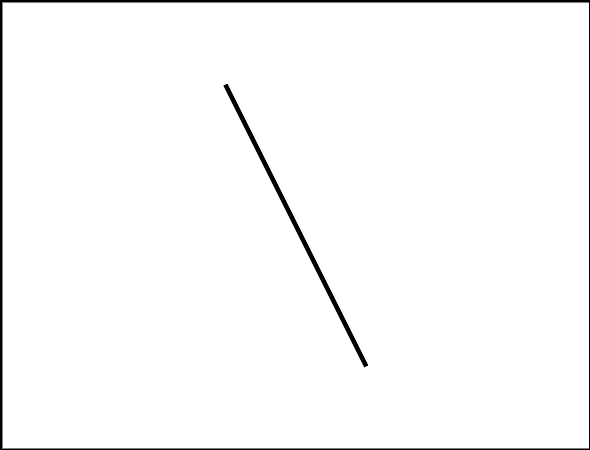
1. In right triangle , and . A new triangle is formed by connecting the midpoints of and .

* 
  1. What is the area of triangle ?
  2. What is the area of triangle ?
  3. Does the scale factor for the side lengths apply to the area as well?
* (From Unit 3, Lesson 11.)

1. Quadrilaterals and  are similar.

* What is the scale factor of the dilation that takes to ?
* 
* (From Unit 3, Lesson 6.)

1. Priya is trying to determine if triangle  is congruent to triangle . She knows that segments  and are congruent She also knows that angles  and  are congruent. Does she have enough information to determine that the triangles are congruent? Explain your reasoning.

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* (From Unit 2, Lesson 6.)



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