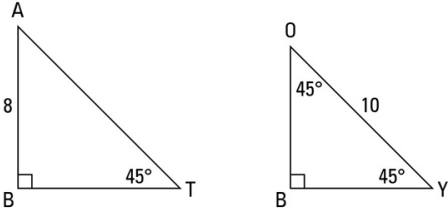


### 8-3: Draw Triangles with Given Conditions

1. Sample answer: Given three side lengths, the sum of the two shortest side lengths must be greater than the length of the longest side. Given side lengths and angle measures, there can be no triangle, one unique triangle, or two triangles. Given 3 angle measures, many triangles can be drawn.
2. Sample answer: The triangles look similar because they have the same angle measures and proportional side lengths.
3. Sample answer: The segments must be drawn that form a specific angle and their lengths are specific. So after these conditions are met, all that needs to be done is to connect the endpoints of the two segments that do not meet.
4. No triangles can be drawn; Sample answer: The two shorter sides, 4 cm and 4.5 cm, cannot meet to form a triangle over the longest side of 9 cm.
5. No; Sample answer: Triangles with two sides and an included angle can form only one unique triangle.
6. Sample answer:  

7. See student work.
8. You will always get one triangle, as long as the sum of the lengths of any two sides is greater than the length of the third side.
9. Sample answer: You can draw the triangle in different positions (that is, use a different side as the bottom, and/or flip the remaining two sides).
10. You will always get one triangle.
11. You can enlarge or shrink the triangle while keeping the angle measures the same.
12. More than one triangle.
13. Sample answer: She did not consider enlarging or shrinking the triangle to have proportional side lengths to make another triangle.
14. No; Sample answer: The length of the included side between the two given angle is not the same for each triangle.
15. a. A  
b. Sample answer: When two angles and their included side is given, only one unique triangle can be made.
16. They are different in that the other side length could have a different length, which means the other two angles would also be different.
17. See student work.
18. One triangle

### 8-3: Draw Triangles with Given Conditions

19. Sample answer: 2.5 centimeters; I know that 2.5 centimeters can be a side length since the sum of 2.5 and 8.5 (11) is greater than the longest side of 9.5.

20. Yes

21. B, D, E

22. D

23. Sample answer:

