# 5.5-5.6 Review

Date_____ Period____

**State the number of possible triangles that can be formed using the given measurements.**

1) $m\angle C = 19°$, $b = 15$, $c = 12$

2) $m\angle B = 43°$, $a = 31$, $b = 13$

3) $m\angle C = 53°$, $b = 32$, $c = 31$

4) $m\angle A = 92°$, $a = 13$, $c = 8$

**Law of Sines: Solve each triangle. Round your answers to the nearest thousandth.**

5) $m\angle A = 88°$, $a = 26$, $c = 13$

6) $m\angle B = 34°$, $m\angle C = 6°$, $a = 31$

**Law of Sines: The given measurements create two triangles. Solve both triangles. Round your answers to the nearest thousandth.**

7) $m\angle A = 52°$, $c = 26$, $a = 24$

8) $m\angle B = 27°$, $a = 34$, $b = 26$

**Law of Cosines: Solve each triangle. Round your answers to the nearest thousandth.**

9) $c = 19$, $a = 20$, $m\angle B = 110°$

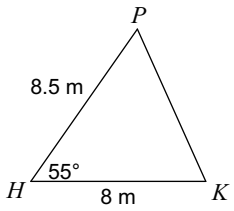
10) $m\angle C = 123°$, $a = 17$, $b = 26$

11) $c = 22.5$, $b = 25.9$, $a = 22.8$

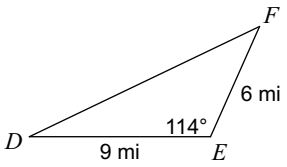
12) $a = 14$, $b = 9$, $c = 6$

**Find the area of each triangle to the nearest thousandth.**

13)




14)

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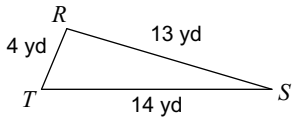
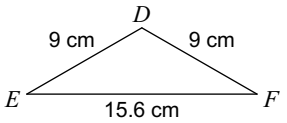



16)




17) A post is supported by two wires (one on each side going in opposite directions) creating an angle of 80° between the wires. The ends of the wires are 12m apart on the ground with one wire forming an angle of 40° with the ground. Find the lengths of the wires.

18) Two ships are sailing from Halifax. The Nina is sailing due east and the Pinta is sailing 43° south of east. After an hour, the Nina has travelled 115km and the Pinta has travelled 98km. How far apart are the two ships?

19) 3 friends are camping in the woods, Bert, Ernie and Elmo. They each have their own tent and the tents are set up in a Triangle. Bert and Ernie are 10m apart. The angle formed at Bert is 30°. The angle formed at Elmo is 105°. How far apart are Ernie and Elmo?

20) Two scuba divers are 20m apart below the surface of the water. They both spot a shark that is below them. The angle of depression from diver 1 to the shark is 47° and the angle of depression from diver 2 to the shark is 40°. How far are each of the divers from the shark?

Pre-Calculus Name_____ ID: 1



# 5.5-5.6 Review

Date_____ Period____

**State the number of possible triangles that can be formed using the given measurements.**

1) $m\angle C = 19°, b = 15, c = 12$

Two triangles

2) $m\angle B = 43°, a = 31, b = 13$

None

3) $m\angle C = 53°, b = 32, c = 31$

Two triangles

4) $m\angle A = 92°, a = 13, c = 8$

One triangle

**Law of Sines: Solve each triangle. Round your answers to the nearest thousandth.**

5) $m\angle A = 88°, a = 26, c = 13$

$m\angle B = 62°, m\angle C = 30°, b = 23$

6) $m\angle B = 34°, m\angle C = 6°, a = 31$

$m\angle A = 140°, c = 5, b = 27$

**Law of Sines: The given measurements create two triangles. Solve both triangles. Round your answers to the nearest thousandth.**

7) $m\angle A = 52°, c = 26, a = 24$

$m\angle B = 69.4°, m\angle C = 58.6°, b = 28.5$
*Or* $m\angle B = 6.6°, m\angle C = 121.4°, b = 3.5$

8) $m\angle B = 27°, a = 34, b = 26$

$m\angle C = 116.6°, m\angle A = 36.4°, c = 51.2$
*Or* $m\angle C = 9.4°, m\angle A = 143.6°, c = 9.4$

**Law of Cosines: Solve each triangle. Round your answers to the nearest thousandth.**

9) $c = 19,\ a = 20,\ m\angle B = 110°$

$m\angle C = 34°, m\angle A = 36°, b = 32$

10) $m\angle C = 123°,\ a = 17,\ b = 26$

$m\angle A = 22°, m\angle B = 35°, c = 38$

11) $c = 22.5,\ b = 25.9,\ a = 22.8$

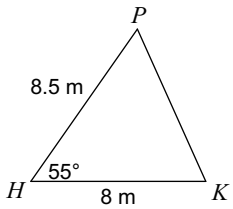
$m\angle B = 69.7°, m\angle C = 54.6°, m\angle A = 55.7°$

12) $a = 14,\ b = 9,\ c = 6$

$m\angle C = 17°, m\angle A = 137°, m\angle B = 26°$

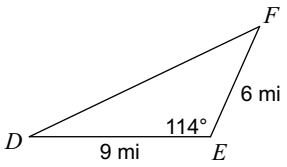
**Find the area of each triangle to the nearest thousandth.**

13)



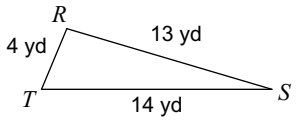

27.9 m²

14)



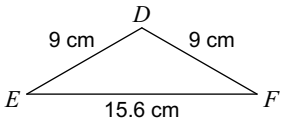

24.7 mi²

15)




25.9 yd²

16)




35 cm²

17) A post is supported by two wires (one on each side going in opposite directions) creating an angle of 80° between the wires. The ends of the wires are 12m apart on the ground with one wire forming an angle of 40° with the ground. Find the lengths of the wires.

10.553, 7.832

18) Two ships are sailing from Halifax. The Nina is sailing due east and the Pinta is sailing 43° south of east. After an hour, the Nina has travelled 115km and the Pinta has travelled 98km. How far apart are the two ships?

79.651

19) 3 friends are camping in the woods, Bert, Ernie and Elmo. They each have their own tent and the tents are set up in a Triangle. Bert and Ernie are 10m apart. The angle formed at Bert is 30°. The angle formed at Elmo is 105°. How far apart are Ernie and Elmo?

5.176

20) Two scuba divers are 20m apart below the surface of the water. They both spot a shark that is below them. The angle of depression from diver 1 to the shark is 47° and the angle of depression from diver 2 to the shark is 40°. How far are each of the divers from the shark?

14.647, 12.873