

Name _____

MAT126 – Technical Math & Trig

Assignment 9 – Show Your Work!

Solve each triangle with the given information. Write your final answers using the correct number of significant figures. Use the table to enter your answers.

(1) $A = 19.4^\circ; B = 85.3^\circ; c = 22.1$

ANGLES	sides
A =	a =
B =	b =
C =	c =

(2) $B = 75.46^\circ; b = 19.4; C = 44.95^\circ$

ANGLES	sides
A =	a =
B =	b =
C =	c =

(3) $a = 42.3; B = 14.3^\circ; C = 16.9^\circ$

ANGLES	sides
A =	a =
B =	b =
C =	c =

Name _____

(4) $b = 9.12; B = 1.3; C = 0.67$

ANGLES	sides
A =	a =
B =	b =
C =	c =

(5) $a = 29.34; A = 1.23; C = 1.67$

ANGLES	sides
A =	a =
B =	b =
C =	c =

(6) $a = 9.3; b = 16.3; C = 42.3^\circ$

ANGLES	sides
A =	a =
B =	b =
C =	c =

Name _____

(7) $A = 121.37^\circ; b = 112.37; c = 93.42$

ANGLES	sides
A =	a =
B =	b =
C =	c =

(8) $a = 4.527; b = 6.239; c = 8.635$

ANGLES	sides
A =	a =
B =	b =
C =	c =

(9) $a = 7.621; b = 3.429; C = 0.183$

ANGLES	sides
A =	a =
B =	b =
C =	c =

Name _____

(10) $a = 54.8; B = 1.625; c = 38.33$

ANGLES	sides
A =	a =
B =	b =
C =	c =

Find the area of each triangle with the given information; it may be necessary to solve for a missing side or angle of the triangle first. Write your answer with the correct number of significant figures and units.

(11) $a = 3.7 \text{ in.}, b = 4.8 \text{ in.}, C = 39.2^\circ$

(12) $a = 9.72 \text{ cm}, b = 3.84 \text{ cm}, C = 117.5^\circ$

(13) $b = 34.7 \text{ m}, c = 29.6 \text{ m}, A = 87.5^\circ$

Name _____

(14) $a = 12.875 \text{ ft}$, $b = 15.250 \text{ ft}$, $C = 17.2^\circ$

- (15) From a point on the top of one end of a football stadium, the angle of depression to the 40.00-yard marker is 10.45° . The angle of depression to the 50.00-yard marker is 11.36° . How high is that end of the stadium above the playing field? Draw a picture and label your triangle(s). Write your answer as part of a complete sentence with the appropriate number of significant figures and units.

- (16) A ship leaves port at noon and travels due north at 21 km/h. At 3 p.m., the ship changes direction to a heading of 37° . How far from the port is the ship at 7 p.m.? What is the bearing of the ship from the port? Write your answer as part of a complete sentence with the appropriate number of significant figures and units.

Name _____

- (17) Two sidewalks meet at an angle of 117° to form two sides of a triangular flower bed. If the sides of the flower bed along each side walk measure 13.5 ft and 18.0 ft, what is the length of the third side of the flower bed? Write your answer as part of a complete sentence with the appropriate number of significant figures and units.
- (18) Write the Law of Sines. What information is needed about the triangle to use the Law of Sines?
- (19) Write the Law of Cosines. What information is needed about the triangle to use the Law of Cosines?
- (20) How do you know when to use the Law of Sines and when to use the Law of Cosines?