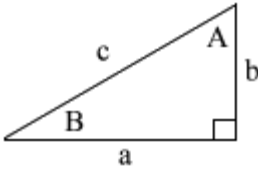


Student: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Instructor: Keith Barrs  
Course: Math 1113  
Book: Sullivan: Precalculus, 8e

Assignment: Sample Test 4

1.



Use the right triangle and the given information to solve the triangle.

$b = 4, B = 37^\circ$ ; find  $a, c$ , and  $A$ .

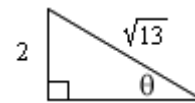
$a = \square$  (Round to the nearest hundredth as needed.)

$c = \square$  (Round to the nearest hundredth as needed.)

$A = \square^\circ$  (Round to the nearest tenth as needed.)

2.

Find the value of each of the six trigonometric functions of the angle  $\theta$  in the figure.



$\sin \theta = \square$

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed.)

$\cos \theta = \square$

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed.)

$\tan \theta = \square$

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed.)

$\csc \theta = \square$

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed.)

$\sec \theta = \square$

(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed.)

$\cot \theta = \square$

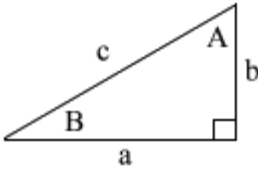
(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression. Type an exact answer, using radicals as needed.)

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3.



Use the right triangle and the given information to solve the triangle.

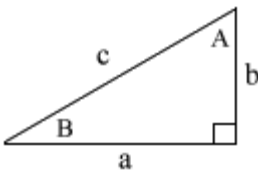
$b = 6, B = 34^\circ$ ; find  $a, c$ , and  $A$ .

$a = \square$  (Round to the nearest hundredth as needed.)

$c = \square$  (Round to the nearest hundredth as needed.)

$A = \square^\circ$  (Round to the nearest tenth as needed.)

4.



Use the right triangle and the given information to solve the triangle.

$a = 3, c = 5$ ; find  $b, A$ , and  $B$ .

$b = \square$  (Round to the nearest hundredth as needed.)

$A = \square^\circ$  (Round to the nearest tenth as needed.)

$B = \square^\circ$  (Round to the nearest tenth as needed.)

5.

The hypotenuse of a right triangle is 11 inches. If one leg is 7 inches, find the degree measure of each angle.

The angle opposite the 7 inch leg is  $\square^\circ$ .  
(Do not round until the final answer. Then round to one decimal place as needed.)

The third angle of the right triangle is  $\square^\circ$ .  
(Do not round until the final answer. Then round to one decimal place as needed.)

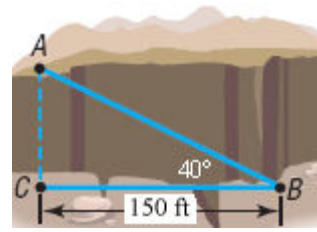
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6.

Find the distance from A to C across the gorge illustrated in the figure.

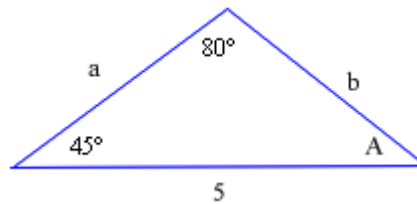


The distance from A to C is  feet.

(Do not round until the final answer. Then round to two decimal places as needed.)

7.

Solve the triangle.



Determine the value of A.

$A = \text{}^\circ$

(Round to the nearest whole number as needed.)

Determine the value of a.

$a = \text{}$

(Round to two decimal places as needed.)

Determine the value of b.

$b = \text{}$

(Round to two decimal places as needed.)

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8.

Solve the triangle.

$$A = 10^\circ, \quad B = 60^\circ, \quad a = 5$$

Determine the value of C.

$$C = \boxed{\phantom{00}}^\circ$$

(Round to the nearest whole number as needed.)

Determine the value of b.

$$b = \boxed{\phantom{00}}$$

(Round to two decimal places as needed.)

Determine the value of c.

$$c = \boxed{\phantom{00}}$$

(Round to two decimal places as needed.)

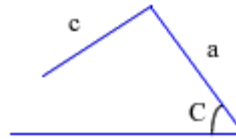
9.

Two sides and an angle are given below.  
Determine whether the given information  
results in one triangle, two triangles, or  
no triangle at all.

$$a = 9$$

$$c = 3$$

$$C = 20^\circ$$



How many triangles does the given information produce?

- A. no triangles
- B. one triangle
- C. two triangles

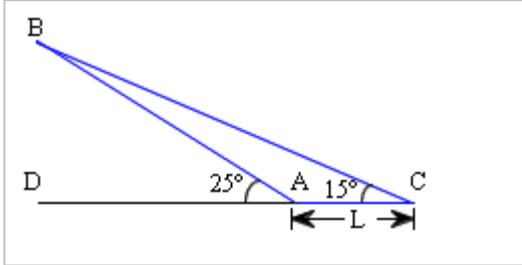
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Assignment: Sample Test 4

10.

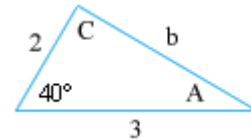
Consult the figure. To find the length of the span of a proposed ski lift from A to B, a surveyor measures the angle DAB to be  $25^\circ$  and then walks off a distance of  $L = 1300$  feet to C and measures the angle ACB to be  $15^\circ$ . What is the distance from A to B?



The distance from A to B is approximately  feet.  
(Do not round until the final answer. Then round to two decimal places as needed.)

11.

Solve the triangle.



Solve for the value of each unknown.

$b =$   (Round to two decimal places as needed.)

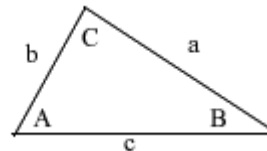
$A =$   $^\circ$  (Round to one decimal place as needed.)

$C =$   $^\circ$  (Round to one decimal place as needed.)

12.

Solve the triangle.

$a = 3$ ,  $b = 9$ ,  $C = 50^\circ$



$c \approx$    
(Round to two decimal places as needed.)

$A \approx$   $^\circ$   
(Type your answer in degrees. Round to one decimal place as needed.)

$B \approx$   $^\circ$   
(Type your answer in degrees. Round to one decimal place as needed.)

Student: \_\_\_\_\_  
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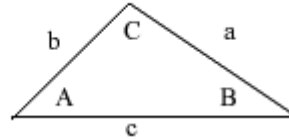
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13.

Solve the triangle.

$$a = 6, b = 6, C = 50^\circ$$



$$c \approx \boxed{\phantom{00}} \text{ (Round to two decimal places as needed.)}$$

$$A \approx \boxed{\phantom{00}}^\circ$$

(Type your answer in degrees. Round to one decimal place as needed.)

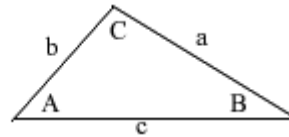
$$B \approx \boxed{\phantom{00}}^\circ$$

(Type your answer in degrees. Round to one decimal place as needed.)

14.

Solve the triangle.

$$a = 7, b = 13, c = 19$$



$$A \approx \boxed{\phantom{00}}^\circ$$

(Type your answer in degrees. Round to one decimal place as needed.)

$$B \approx \boxed{\phantom{00}}^\circ$$

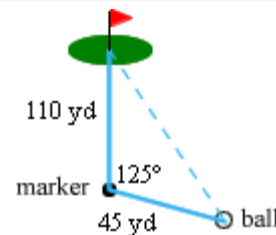
(Type your answer in degrees. Round to one decimal place as needed.)

$$C \approx \boxed{\phantom{00}}^\circ$$

(Type your answer in degrees. Round to one decimal place as needed.)

15.

A golfer hits an errant tee shot that lands in the rough. A marker in the center of the fairway is 110 yards from the center of the green. While standing on the marker and facing the green, the golfer turns  $125^\circ$  towards his ball. He then paces off 45 yards to his ball. How far is the ball from the center of the green?



The ball is about  $\boxed{\phantom{00}}$  yards from the center of the green.

(Round to one decimal place as needed.)

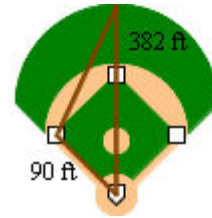
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16.

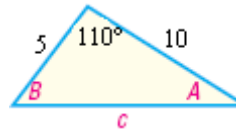
The distance from the home plate to the fence in dead center at a certain baseball field is 382 feet. How far is it from the fence in dead center to third base?



The fence in dead center is about  feet from third base.  
(Round to two decimal places as needed.)

17.

Find the area  $K$  of the triangle.



$K =$   square units  
(Round to two decimal places as needed.)

18.

Find the area  $K$  of the triangle.

$$b = 2, c = 10, A = 70^\circ$$

$K =$   square units  
(Round to two decimal places as needed.)

19.

Find the area  $A$  of the triangle specified below.

$$a = 8, b = 10, c = 6$$

The area  $A$  is  square units. (Type an integer.)

20.

The dimensions of a triangular lot are 188 feet by 86 feet by 177 feet. If the price of such land is \$3 per square foot, how much does the lot cost?

The lot costs \$ .  
(Do not round until the final answer. Then round to the nearest cent as needed.)

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**Assignment:** Sample Test 4

1. 5.31  
6.65  
53

2.  $\frac{2\sqrt{13}}{\frac{13}{3\sqrt{13}}}$   
 $\frac{13}{2}$   
 $\frac{3}{\sqrt{13}}$   
 $\frac{2}{\sqrt{13}}$   
 $\frac{3}{2}$

3. 8.9  
10.73  
56

4. 4  
36.9  
53.1

5. 39.5  
50.5

6. 125.86

7. 55  
4.16  
3.59

8. 110  
24.94  
27.06

9. A

10. 1937.62



**Student:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Time:** \_\_\_\_\_

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**Assignment:** Sample Test 4

- 11. 1.95  
41.2  
98.8
- 12. 7.44  
18.1  
111.9
- 13. 5.07  
65  
65
- 14. 13.2  
25  
141.8
- 15. 140.7
- 16. 324.66
- 17. 23.49
- 18. 9.4
- 19. 24
- 20. 22,691.76