

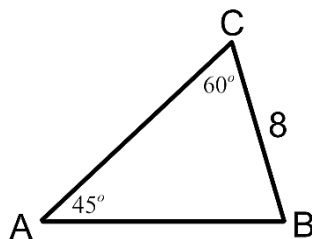
Honors Precalculus

Chapter 6 and 9 PRACTICE TEST

Name: _____ Per: _____

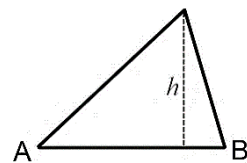
Use an additional sheet, if necessary, to show your work

1. Solve the triangle.



$b =$ _____ $c =$ _____ $\angle B =$ _____

2. For the triangle shown and the values provided, state how many triangles are possible (0, 1, or 2).

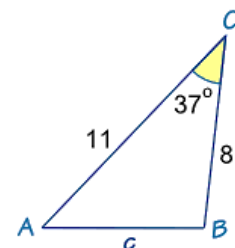


a) $A = 62^\circ, a = 10, b = 12$

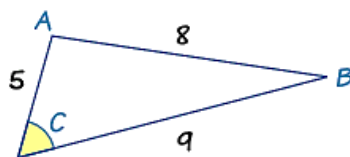
b) $A = 58^\circ, a = 11, b = 12$

3. Sketch a triangle where $C = 120^\circ, a = 4, b = 6$ and then find its area.

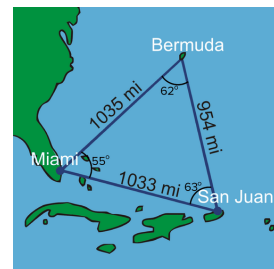
4. Find the length of side c to 1 decimal place.



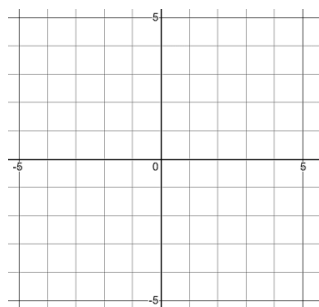
5. Find the measure of angle C to 1 decimal place.



6. Find how many square miles the Bermuda Triangle covers using Heron's formula.



7. Given $\vec{u} = \langle 2, -1 \rangle$ and $\vec{v} = \langle 1, 5 \rangle$ sketch $2\vec{u} + \vec{v}$.

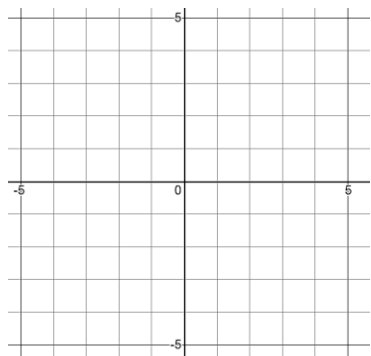


8. Given $\mathbf{u} = 4\mathbf{i} - 2\mathbf{j}$ and $\mathbf{v} = -3\mathbf{i} + 8\mathbf{j}$ find the following:

a) $\frac{1}{2}\mathbf{u} - \mathbf{v}$

b) $5\mathbf{u} + 2\mathbf{v}$

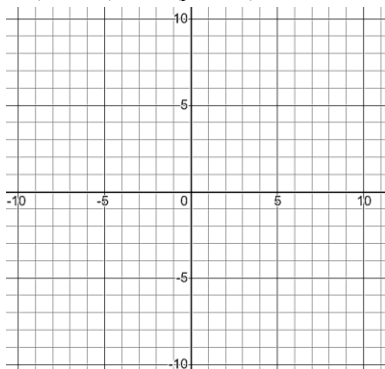
8. Sketch in vector $\mathbf{v} = -2\mathbf{i} + 5\mathbf{j}$ and then find the magnitude and direction of \mathbf{v} .



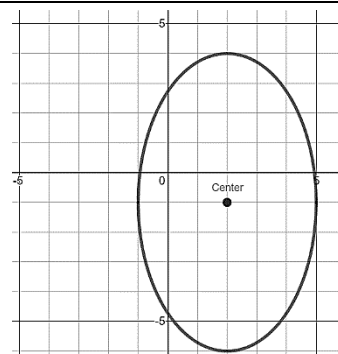
9. A plane with an airspeed of 330 mph at a bearing of N 65° E encounters wind with a velocity of 75 mph at E 30° N. Find the resultant (airplane + wind) speed and direction of the two.



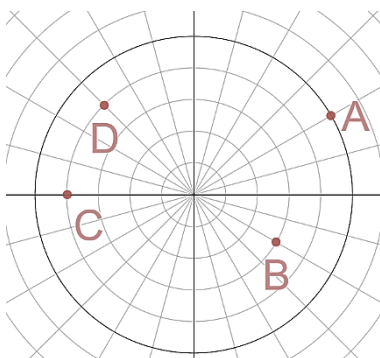
10. Graph the equation $(x + 3)^2 + (y - 2)^2 = 49$.



11. Write the equation for the ellipse shown.



12. List the polar coordinates for the points shown.



13. a) Convert point A from problem 12 to rectangular coordinates.

- b) Convert $(-2, -2)$ to polar coordinates.

14. For the equation $r = 4\sin\theta$, fill in the table and plot the points. Then sketch the graph of the equation.

θ	0	$\pi/6$	$\pi/3$	$\pi/2$	$2\pi/3$	$5\pi/6$	π
r							

