

Name _____
Date _____

Advanced Algebra Assignment #2
Unit 9 Parametric Equations
Complete the following problems in class.
Make accurate graphs and tables.

- 1) A car is driving off a cliff at 20 meters per second. The cliff is 10 meters wide and 100 meters tall. Make a parametric table to show the time and the x and y distances. Show when the car hits the ground. Make an accurate graph of the situation. (The parametric for the y is $100-5t^2$)

t	x	y

- 2) A ship is traveling on a bearing of 40 degrees. The ship is traveling at 50 miles per hour.
- Draw the correct right triangle picture
 - Write the parametric equations for the horizontal and vertical distances
 - Make a parametric table.
 - How many hours will it take until the ship is 200 miles east of where it started (use your table)
 - What is the vertical displacement when it is 200 miles east of where it started?
 - What is the total distance that the ship has traveled when it is 200 miles east of where it started?

Right Triangle Picture:

Parametric Equations:

t	x	y

Review:

- | | |
|--|--|
| 1) Draw the angle of 220° | 2) draw the angle of 135° |
| 3) Draw the angle of 70° | 4) draw the angle of 275° |
| 5) Solve $\sin 25 = \frac{x}{10}$ | 6) Solve $\cos 75 = \frac{35}{x}$ |
| 7) Solve $\sin^{-1}\left(\frac{18}{32}\right)$ | 8) $\cos^{-1}\left(\frac{35}{48}\right)$ |