**Mr. Ingraham**

Continuing education plan

**Pre-Calculus:**

As I said in an email a while ago this is your chance to really experience what being a college student is. You are going to have to study, find resources, look up videos, and find example problems on your own. There is only so much I can give you. As you are studying, anything that you feel you need more practice on go find worksheets, watch videos and practice it as much as you can until you have it down. Listed below are some of the things you should be working on.

* Learn the basics of what Vectors are:
  1. Know the basics of what a vector is and what it means when it is in component form (v = 2i-3j).
  2. Know how to add/subtract vectors
  3. Know how to find the magnitude of a vector.
  4. Here are links to some really good resources on vectors. Watch all the videos and you should be good. But, like I said, if you need more practice search for it yourself. You can probably find them quicker than I can anyway.

<https://www.khanacademy.org/math/precalculus/x9e81a4f98389efdf:vectors>

<https://www.khanacademy.org/math/linear-algebra/vectors-and-spaces/vectors/v/vector-introduction-linear-algebra>

* 1. Then work on the vector webassign.
  2. If you need more practice do problems in section 9.1 of your book.
* Learn about Polar Coordinates:

1. Know what polar coordinates are and why they are used.
2. Know how to take our regular coordinates (x,y) which are called rectangular or Cartesian coordinates and convert them to Polar Coordinates. And how to convert Polar coordinates back to normal coordinates.
3. Be able to convert a regular x and y equation into a polar equation. And how to convert a polar equation back into a regular x and y equation.

Here some links for this.

1. <https://www.youtube.com/watch?v=aSdaT62ndYE>
2. <https://www.youtube.com/watch?v=r0fv9V9GHdo>
3. <https://www.youtube.com/watch?v=u_BOn-q7KGs>
4. <https://www.youtube.com/watch?v=XCdrplDBIDc>
5. <https://www.youtube.com/watch?v=V1iK7X4iGZU>
6. <https://www.youtube.com/watch?v=UAtUQFUM_YA>
7. <https://www.youtube.com/watch?v=7Xoub1BHb6o>
8. Work on the 2 webassigns on this topic. Start with the one that says “Polar Coordinates”
9. Then if you want more practice do problems from section 8.1 in your book.

* Work on the review/practice final that was sent to you in the mail. Then start putting together your page of notes for the final

**Semester Final:**

I am still waiting for CWU to give me more guidance on how to administer the final. I will give you updates when I learn anything. As for a timeline, I would like to give the final near the start of May…which is my birthday by the way.

**Parting words**:

I miss you all more than you can imagine. If teaching evolves to being behind a computer full time I will give it up in a heartbeat. Building relationships with all of you is what teaching is about and if we learn some math along the way great. Maybe you don’t believe me, but please don’t hesitate to reach out to me if you need help. We can set up a Zoom meeting to go over things. There is a whiteboard option in Zoom so it will be just like I was doing the warm-ups in class. Don’t feel like you will be interrupting me at all. Most of the day I just wander around my house bored and looking for things to do. I even read a book for the first time two or three years. If you know how much I hate reading this will really give you an idea of how bored I am.

Take care and I love you all!

Ingraham