Math 120 – Week 1 Thursday Test Prep – Dr. Loveless

Typically, test preps involve working on old exam problems for the first 5–10 minutes of the quiz section to get a feel for what exams are like. Today, however, will be a bit different—it's all about getting to know your TA, your classmates, and the homework**.**

Part 1 (first 12 minutes) **– Getting to know your TA & classmates**

Getting to Know Your TA
Your TA will introduce themselves. Please ask them the following questions and fill in your answers:

Questions	Answers
How do you spell their first name?	
Where did your TA grow up?	
Where did they go to undergrad?	
How many geese could they take in a fight if cornered on campus?	
What is their intended math research area?	
Other interesting notes?	

Getting to Know Your Classmates
Form groups of 4–5 students. Share where you are from, number of pets you have at home, number of siblings, and an interesting (or mundane) fact. Fill in the table below:

Questions	Answers
Total pets in your group	
Total sibling in your group	
Other notes (names, interesting facts)	

When you have all shared, please have **someone from your group go to the board** and write your totals for pets and siblings for your group. Once all groups are done, add up all the pets and all the siblings for everyone in your quiz section and write down the following:

- Total number of pets in your quiz section: _____
- Total number of siblings in your quiz section: _____
- Product of pets × siblings for your quiz section: _____

PARTICIPATION: Please open the participation quiz for today and enter these numbers!

Part 2 (next 12 minutes) **- Chapter 1 Homework Preview**

This course is about problem solving and mathematical modeling. It is more about using precalculus and less about rote practice and skills. That means it might be very different from other math classes you have taken. The chapter 1 homework is mostly about unit conversion and working with speed, distance and time. These tools are very important if you are going to do real example problems as much as we will in this course.

Here is a problem directly from homework, discuss it with your group and try to answer the first few parts...

8. [– / 9 Points] DETAILS PRACTICE ANOTHER

UWAPreCalc1 1.P.012.

A water pipe mounted to the ceiling has a leak and is dripping onto the floor below, creating a circular puddle of water. The area of the circular puddle is increasing at a constant rate of 11 cm^2/hour.

(a) Find the area and radius of the puddle after 1 minute, 95 minutes, 3 hours, and 1 day. (Round your answers to four decimal places as needed.)

area after 1 minute		cm^2
radius after 1 minute		cm
area after 95 minutes		cm^2
radius after 95 minutes		cm

- Are you getting the same answers as your classmates?
- Do you know the formula for the area of a circle?
- Make sure you know how to do this problem before you leave quiz section!

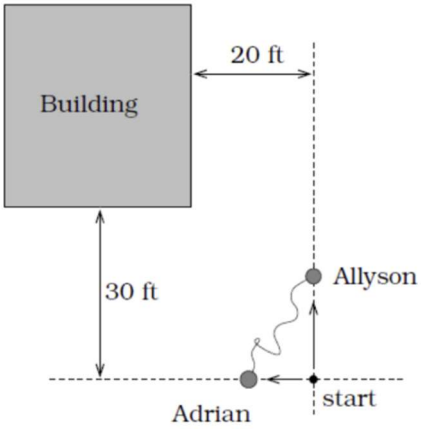
Notes:

Part 3 (next 12 minutes) **– Chapter 2 Homework Preview**

The chapter 2 homework adds in the idea of distance and coordinate systems which dramatically expands the types of interesting applied problems we can do. Here are two problems from the chapter 2 problem for you to discuss in groups so you can get a sense of what some of the homework will be like. The goal is not to solve this problem right now (you'll have to do it on the homework), my goal is for you to think about how to ***start them*** with your classmate …

Problem 2.6 – Bungee Cord Motion

Allison and Adrian connect their ankles with a bungee cord 30 ft long (stretchable up to 90 ft). Allison moves 10 ft/sec, Adrian moves 8 ft/sec.



a) Where are the two people after 2 seconds?
b) After 2 seconds, is the slack in the bungee cord used up?
c) Determine when the cord first becomes tight. Where are they located?
d) When will the cord first touch the corner of the building?

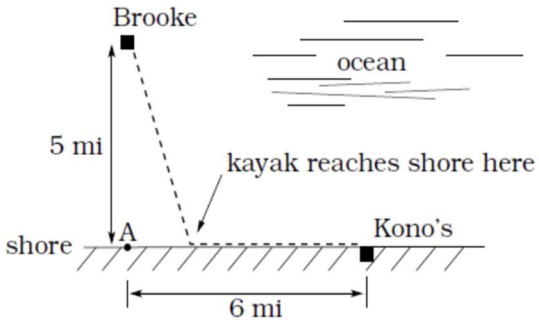
Notes:

(last 12 minutes) **More Chapter 2 Homework Preview**

The following problem is exactly like several applied optimization problems that you will see in Math 124. So you'll see problems like this again. One of the nice features of our Math 120 curriculum is that several problems that appear in Math 120 appear again as problems in Math 124. Again discuss on how you would start …

Problem 2.7 – Kayak to Kono's

Brooke is 5 miles from point A on the shore. She wants to reach Kono's (6 miles along the shore). She can paddle 2 mph and walk 4 mph.



a) Total time if she paddles directly to A, then walks to Kono's
b) Total time if she paddles directly to Kono's
c) Total time if Brooke beaches halfway between A and Kono's
d) Using (0,0) for A and (x,0) for the kayak landing point, find a formula for total time in terms of x

Notes: