Chapter 2 (6734726)

Current Score: 0/61 **Due:** Tue Jan 13 2015 11:59 PM PST

Question	1	2	3	4	5	Total
Points	0/12	0/15	0/12	0/12	0/10	0/61

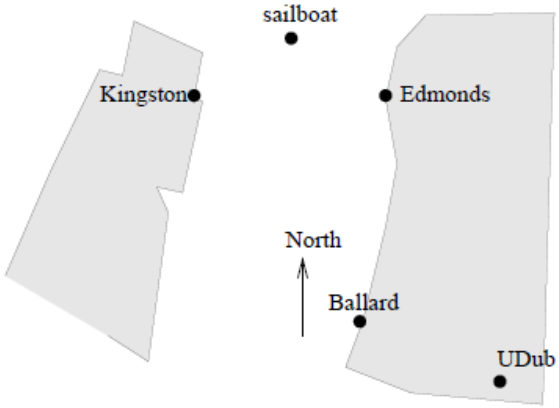
1. 0/12 points UWAPreCalc1 2.P.003. [2123843]

Steve and Elsie are camping in the desert, but have decided to part ways. Steve heads north, at 7 AM, and walks steadily at 2 miles per hour. Elsie sleeps in, and starts walking west at 2.5 miles per hour starting at 9 AM.

When will the distance between them be 25 miles? (Round your answer to the nearest minute.)
[ ] : [ ] PM

2. 0/15 points UWAPreCalc1 2.P.004. [2715853]

Erik's disabled sailboat is floating at a stationary location 3 miles east and 2 miles north of Kingston. A ferry leaves Kingston heading due east toward Edmonds at 12 mph. At the same time, Erik leaves the sailboat in a dinghy heading due south at 10 ft/sec (hoping to intercept the ferry). Edmonds is 6 miles due east of Kingston.



(a) Compute Erik's speed in mph and the ferry's speed in ft/sec. (Round your answers to three decimal places as needed.)

Erik [ ] mph
ferry [ ] ft/s

(b) Impose a coordinate system and complete this table of data concerning locations (i.e., coordinates) of Erik and the ferry. (Let Kingston have coordinates $(x, y) = (0, 0)$, let 1 unit stand for 1 mile, and let t represent the time since the ferry left Kingston, with $0 \le t \le 0.5$ hours. Round your answers to 3 decimal places as needed.)

Time Since the Ferry Left Kingston	Ferry (x, y)	Erik (x, y)	Distance Between
0 sec	(,)	(,)	[ ] mi
30 sec	(,)	(,)	[ ] mi
7 min	(,)	(,)	[ ] mi
t hr	(,)	(,)	mi

(c) Explain why Erik misses the ferry.

(d) After 10 minutes, a Coast Guard boat leaves Kingston heading due east at a speed of 25 ft/sec. Will the Coast Guard boat catch the ferry before it reaches Edmonds?

- Yes
- No

Explain.

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3. 0/12 points UWAPreCalc1 2.P.005. [2125463]

Suppose two cars depart from a four-way intersection at the same time, one heading north and the other heading west. The car heading north travels at the steady speed of 20 ft/sec and the car heading west travels at the steady speed of 32 ft/sec.

(a) Find an expression for the distance between the two cars after t seconds. (Round your coefficients to one decimal place as needed.)

ft

(b) Find the distance in miles between the two cars after 2 hours 32 minutes. (Round your answer to one decimal place.)

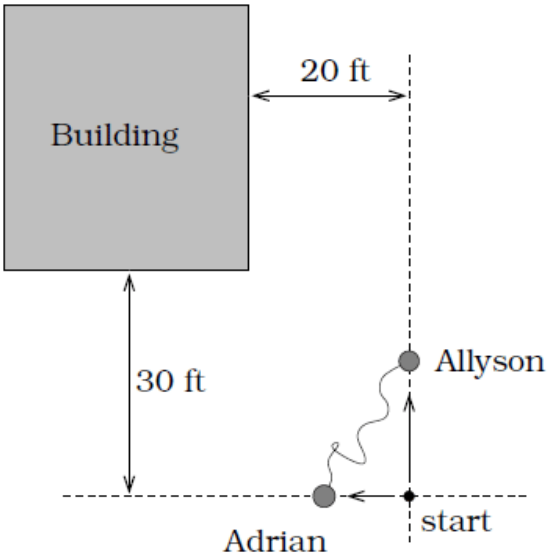
mi

(c) When are the two cars 1 mile apart? (Round your answer to one decimal place.)

sec

4. 0/12 points UWAPreCalc1 2.P.006. [2424378]

Allyson and Adrian have decided to connect their ankles with a *bungee cord*; one end is tied to each person's ankle. The cord is 40 feet long, but can stretch up to 120 feet. They both start from the same location. Allyson moves 20 ft/sec and Adrian moves 11 ft/sec in the directions indicated. (If a coordinate system is used, assume that the girls' starting position is located at $(x, y) = (0, 0)$ and that Allyson and Adrian move in the positive y and negative x directions, respectively. Let one unit equal one foot.)



(a) Where are the two girls located after 2 seconds?

Allyson $(x, y) = ($ $)$

Adrian $(x, y) = ($ $)$

(b) After 2 seconds, will the slack in the bungee cord be used up?

- Yes
- No

(c) Determine when the bungee cord first becomes tight; i.e., there is no slack in the line. (Round your answer to one decimal place.)

sec

Where are the girls located when this occurs? (Round your answers to one decimal place as needed.)

Allyson $(x, y) = ($ $)$

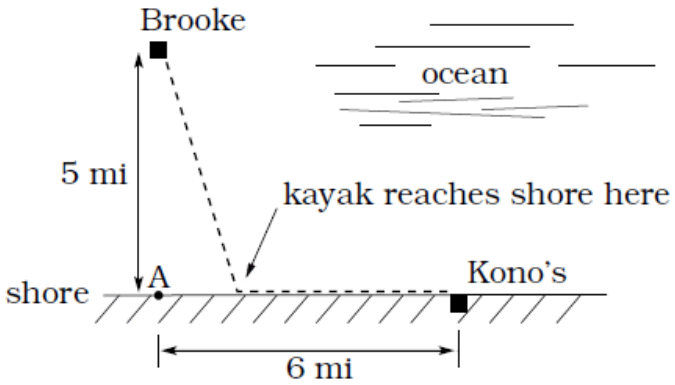
Adrian $(x, y) = ($ $)$

(d) When will the bungee cord first touch the corner of the building? (Hint: Use a fact about "similar triangles." Round your answer to one decimal place as needed.)

sec

5. 0/10 points UWAPreCalc1 2.P.007. [2424373]

Brooke is located 5 miles out from the nearest point A along a straight shoreline in her seakayak. Hunger strikes and she wants to make it to *Kono's* for lunch; see picture. Brooke can paddle 2 mph and walk 4 mph.



(a) If she paddles along a straight line course to the shore, find an expression that computes the total time to reach lunch in terms of the location where Brooke beaches the boat. (Let point A have the coordinates (0, 0) and the location where Brooke beaches the boat have the coordinates (x, 0). Let one unit equal 1 mile.)

(b) Determine the total time to reach Kono's if she paddles directly to the point "A".
[ ] hr

(c) Determine the total time to reach Kono's if she paddles directly to Kono's. (Round your answer to one decimal place.)
[ ] hr

(d) Do you think your answer to (b) or (c) is the minimum time required for Brooke to reach lunch?

(e) Determine the total time to reach Kono's if she paddles directly to a point on the shore halfway between point "A" and Kono's. (Round your answer to one decimal place.)
[ ] hr

How does this time compare to the times in parts (b) and (c)?

- This time is less than the times from both parts (b) and (c).
- This time is equal to the time from part (c).
- This time is more than the times from both parts (b) and (c).
- This time is equal to the time from part (b).
- This time is in between the times from parts (b) and (c).

Do you need to modify your answer to part (d)?

Assignment Details