

PreCalculus Quiz

Your Name: _____

	vector a		vector b		a + b	a · b	component a along b	projection a onto b
	magnitude, dir.	$\langle x, y \rangle$	magnitude, dir.	$\langle x, y \rangle$				
1.	12.3, 192°		19.8, 115°					
2.		$\langle -1.2, -5.5 \rangle$		$\langle 0, 10.6 \rangle$				
3.		45°	7.43, 16.5°			21.4		

4. Lance Armstrong is pedaling up an Alp, on a road that is inclined 23° above the horizontal. The total weight of Lance and his bicycle is 173 lbs., and Lance is accelerating up the road with a resultant force of 26 lbs.

a. Draw a picture of the system (Lance, bike, road) and all of its vectors.

b. What is the normal force of Lance and his bike on the road?

c. How hard is Lance pedaling (In other words, how much forward force is Lance applying)?