MATH 261 EXAM I SPRING 2016

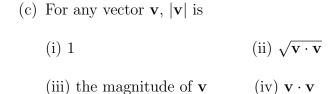
NAME:			
CSU ID:			
SECTION NUMBER:			
	Problem	Points	Score
	1	12	
[Include your instructor's name if you			
cannot remember your section number.]	2	8	
	3	20	
	4	22	
You may NOT use calculators or	5	18	
any references. Show work to receive full credit.	6	20	
	Total	100	

[Exams 1 and 2 typically have 6 problems; 3 has 5; and the final has 9.]

[If formulas are provided (typically only on exam 3 and the final), they'll be either here or on page 2 of the exam.]

GOOD LUCK!!!

1. (12	pts; 1 pt per part)) Circle <u>all</u> correct statements.	
(a)) The dot product	of two vectors $(\mathbf{u} \cdot \mathbf{v})$ is	
	(i) a number	(ii) a vector	
(b)	The cross product of two vectors $(\mathbf{u} \times \mathbf{v})$ is		
	(i) a number	(ii) a vector	



(iii) the magnitude of \mathbf{v}

(d) **P1** is a plane given by
$$2x + 3y + z = 5$$
, **P2** is a plane given by $3x - 2y = 2$, and **L** is a line given by $\mathbf{r}(t) = \langle t, 1 + t, 2 - 5t \rangle$.

- (i) **P1** and **P2** are parallel (ii) P1 and L intersect
- (iii) **P2** and **L** intersect (iv) L is the intersection of P1 and P2

[Multiple choice questions like this sometimes appear on Exam 1 and the final, but they aren't the main problem type.]

2. (8 pts) Determine the distance from point (2,2,3) to the plane x+2y+2z=4.

[This is much more the typical question type: short statement; lots of space for your response. Be sure to write as legibly as possible and to clearly mark your answer!]

- 3. (20 pts; 10 pts per part)
 - (a) The line given by $\mathbf{r}(t) = \langle 1+t, 2-t, 3+2t \rangle$ intersects the plane given by x+y+z=10 in a point. Find the point of intersection.

(b) Find a vector parallel to the line of intersection of the planes given by 2x + z = 5 and x + y - z = 4.

[For multipart questions like this, be sure to read very carefully. The parts are sometimes related (i.e., you might use stuff from part (a) in part (b)), but they are sometimes totally distinct. We make this as clear as we can, but please be sure to read carefully.]

[This exam had 3 more pages, 1 problem per page. See the practice exams for more of these problems.]