Quiz 1

MATH 261, CALCULUS III, SPRING 2018

SECTION: NAME:

Instructions: Solve as many of these problems as you can. Circle the correct answer, and show your work!

Problem 1. Find the angle between the planes given by the equations

$$x + y = 2 \text{ and } x + y + \sqrt{2}z = \sqrt{6}$$

(a) $\pi/2$

(b) $\pi/4$

(c) $\pi/6$

(d) π

(e) $\pi/3$

Problem 2. Let $\vec{a} = (1, -1, 2)$ and $\vec{b} = (2, 1, 0)$. Find t such that the vector $\vec{c} = (5, t-1, 2)$ is perpendicular to $\vec{a} \times \vec{b}$.

(a) $t = 1$

(b) $t = 2$

(c) $t = -1$

(d) $t = -2$

(e) $t = 0$.

Problem 3 The plane passing through $(0, 1, 0)$ and parallel to the plane $x + y - 2z = 3$ intersects the x axis at the point:

(a) $(-1, 0, 0)$

(b) $(1, 0, 0)$

(c) $(-2, 0, 0)$

(d) $(2, 0, 0)$

(e) $(-3, 0, 0)$

Problem 4 Let L be the line parallel to the planes $x - y + z = 1$ and $2x + y + z = 4$ and that passes through $(1, 3, -3)$. At what point does L intersect the plane $z = 0$?

(a) (1,-2,0)

(b) (2,1,0)

(c) (1,3,0)

(d) (-2,2,0)

(e) (-1,4,0)