

Exam I Hints and Answers
Math 126 D Autumn 2011
Version Alpha

1. (6 points each)

(a) ANSWER: $\left(3, \frac{17}{3}, \frac{14}{3}\right)$

(b) ANSWER: $5x + 8y + z = 21$

2. (a) (4 points) ANSWER: $x = \pi^2 + 2\pi t$, $y = -\pi^2 t$, $z = -\pi^2 - 2\pi t$

(b) (6 points) ANSWER: $\frac{1}{3} [9^{3/2} - 8^{3/2}]$

3. (4 points each)

(a) HINT: Note that the angle between \overrightarrow{PQ} and \overrightarrow{QR} is 60° .

ANSWER: $\frac{99}{2}$

(b) ANSWER: $\frac{99\sqrt{3}}{4}$

(c) ANSWER: The second, fourth, and fifth statements are true.

4. ANSWER: top left (b); top right (c); bottom left (a); bottom right (d)

5. (a) (2 points) ANSWER: $\left(2, -\frac{4\pi}{3}\right)$

(b) (2 points) ANSWER: $\left(-5\sqrt{2}, \frac{\pi}{4}\right)$

(c) (2 points) ANSWER: $\left(-\frac{3\sqrt{3}}{2}, -\frac{3}{2}\right)$

(d) (4 points) ANSWER: $\left(x - \frac{7}{2}\right)^2 + y^2 = \frac{49}{4}$, this is the circle with center $\left(\frac{7}{2}, 0\right)$ and radius $\frac{7}{2}$