

Math 116 Fall 2016 Exam 3 Answers

1) a) $\langle t, f(t) \rangle$

b) yes; infinitely many

c) The slope of the tangent line; vertical tangent

2) a) $\left(-\frac{3\sqrt{2}}{2}, \frac{3\sqrt{2}}{2} \right)$

b) $(6, 4\pi/3)$ and $(6, 2\pi + (4\pi/3))$ are two such representations

3) a) $\langle 2 + t(\ln(4) + 1), \frac{\pi}{4} + \frac{t}{2} \rangle$

b) $\frac{1}{\ln(16) + 2}$

4) a) $\pi/4$

b) $x^2 + (y - 1/2)^2 = 1/4$

5) $\int_0^5 \sqrt{(2t \sin(t) + t^2 \cos(t))^2 + (2t \cos(t) - t^2 \sin(t))^2} dt$

b) $19/3$