MATH 232 NAME:
10.1

Partial Solutions for 5, 7, 8, 11, 12, 14, 19, 20, 22

**5.** 1. (a)

| $t$ | -4 | -2 | 0 | 2 | 4 |
|---|---|---|---|---|---|
| $x$ | -9 | -5 | -1 | 3 | 7 |
| $y$ | -1 | 0 | 1 | 2 | 3 |

2. (b): $y = \frac{1}{4}x + \frac{5}{4}$

**7.** 1. (a)

| $t$ | -3 | -1 | 1 | 3 |
|---|---|---|---|---|
| $x$ | 6 | -2 | -2 | 6 |
| $y$ | -1 | 1 | 3 | 5 |

2. (b): $x = y^2 - 4y + 1$, $-1 \leq y \leq 5$

**8.** 1. (a).

| $t$ | 0 | $\pi/2$ | $\pi$ | $3\pi/2$ | $2\pi$ |
|---|---|---|---|---|---|
| $x$ | 0 | 1 | 0 | -1 | 0 |
| $y$ | 0 | 1 | 2 | 1 | 0 |

2. (b): $x^2 + (y-1)^2 = 1$

**11.** $x^2 + y^2 = 1$. Top half semi circle.

**12.** $4x^2 + \frac{1}{4}y^2 = 1$. Top half of ellipse $-1/2 \leq x \leq 1/2$, $0 \leq y \leq 2$.

**14.** $y = \dfrac{1}{x^2}$

**19.** $\left(\dfrac{x-5}{2}\right)^2 + \left(\dfrac{y-3}{2}\right)^2 = 1$. Starts at (3,3) and moves counterclockwise to (7,3).

**20.** $(x-2)^2 + \left(\dfrac{y-1}{3}\right)^2 = 1$. Ellipse. Starts at (3,1) and moves counterclockwise to (2,4).

**22.** $y = 1 - x^2$. Parabola. Starts at (0,1), moves to (1,0), and goes back to (0,1). Then to (-1,0) and back to (0,1).