

**Quiz #1**  
**MTH 113: Fall 2026**  
**Instructor: John Gemmer**

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**You cannot use a calculator for this quiz**

**Problem 1.** For  $0 \leq t \leq 2\pi$ , match the parametric equations listed below with the graphs labeled I-VIII:

(a)  $x = \cos(t)$  and  $y = \sin(2t)$  **V**

(b)  $x = \sin(2t)$  and  $y = \cos(t)$  **II**

(c)  $x = \sin(2t)$  and  $y = \cos(2t)$  **I**

(d)  $x = 2 \cos(t)$  and  $y = 2 \sin(t)$  **III**

(e)  $x = 2 \sin(t)$  and  $y = \cos(t)$  **VIII**

(f)  $x = \cos(t)$  and  $y = 2 \sin(t)$  **VII**

(g)  $x = \cos(2t)$  and  $y = \sin(t)$  **VI**

(h)  $x = \sin(t)$  and  $y = \cos(2t)$  **IV**

