CENGAGE | WEBASSIGN

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10.2 Cálculo Ecuaciones Paramétricas (Homework)

Current Score

QUESTION	1	2	3	4	5	6	7	8	9	10	11	12
POINTS	2/2	2/2	3/3	2/2	3/0	–/2	2/2	2/0	2/2	3/3	2/2	–/2

TOTAL SCORE

23/22 104.5%

Due Date

DECEMBER 21
11:59 PM CST

Request Extension

Description

Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by question parts. The number of submissions remaining for each question part only changes if you submit or change the answer.

Assignment Scoring

Your last submission is used for your score.

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1. 2/2 points Previous Answers SCalcET8 10.2.003. My Notes Ask Your Teacher

Find an equation of the tangent to the curve at the point corresponding to the given value of the parameter.

$x = t^9 + 1, \quad y = t^{10} + t; \quad t = -1$

$y =$ [ ] $-x$ [ ]

Need Help? Talk to a Tutor

2. 2/2 points Previous Answers WebAssignCalcET2 9.2.001t.Tut. My Notes Ask Your Teacher

Find the equation of the tangent line to $x(t) = 8 \sec t$, $y(t) = 8 \tan t$ at $t = \frac{\pi}{4}$ in slope-intercept form.

$y=\sqrt{2}x-8$

Additional Materials

- Tutorial

3. 3/3 points Previous Answers SCalcET8 10.2.011. My Notes Ask Your Teacher

Find dy/dx and d^2y/dx^2.

$x = t^2 + 9, \quad y = t^2 + 9t$

$\frac{dy}{dx} =$ [ ] $2t+92t$

[ ]

$\frac{d^2y}{dx^2} =$ [ ] $-18(2t)3$

[ ]

For which values of t is the curve concave upward? (Enter your answer using interval notation.)

[ ] $(-\infty,0)$

[ ]

4. 2/2 points Previous Answers SCalcET8 10.2.501.XP. My Notes Ask Your Teacher

Find dy/dx.

$x = t\sin(t), \quad y = t^2 + 5t$

[ ] $2t+5sin(t)+tcos(t)$

[ ]

5. 3/0 points Previous Answers SCalcET8 10.2.025. My Notes Ask Your Teacher

Show that the curve $x = 3\cos(t)$, $y = 2\sin(t)\cos(t)$ has two tangents at (0, 0) and find their equations.

$y =$ [ ] $-23x$

[ ]

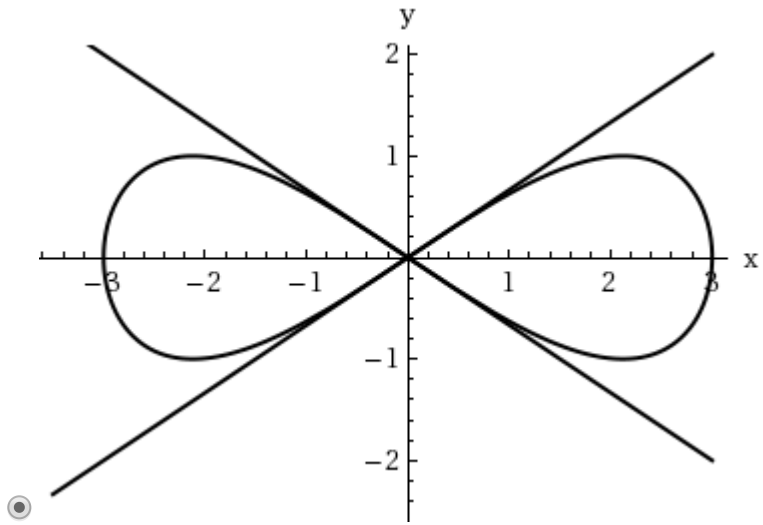
✔ (smaller slope)

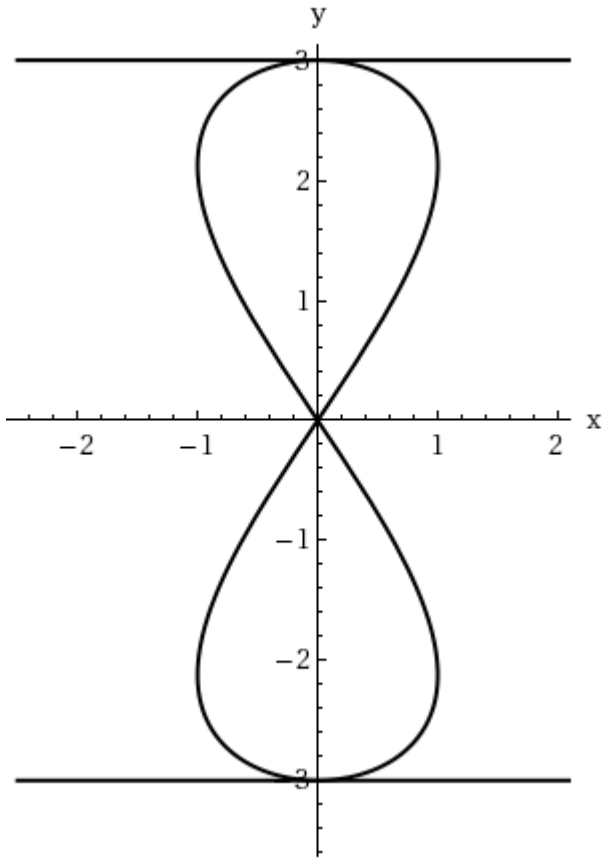
$y =$ [ ] $23x$

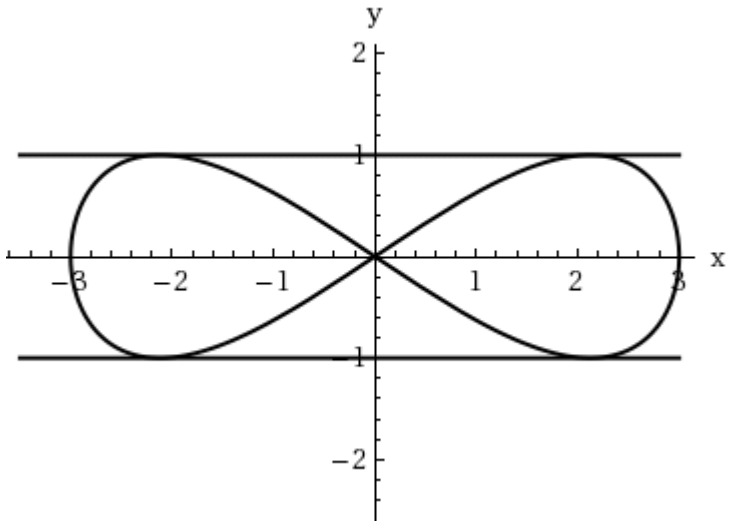
[ ]

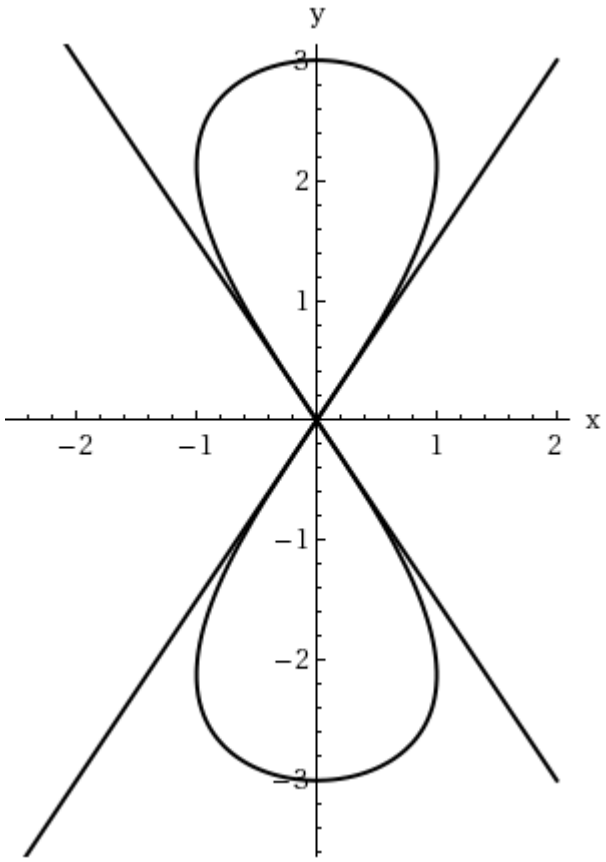
✔ (larger slope)

Sketch the curve.




y
3
2
1
−2
−1
1
2
x
−1
−2
−3





6. –/2 points WebAssignCalcET2 9.2.001j. My Notes Ask Your Teacher

Find the equation of the tangent line to $x(t) = 7 + \ln t$ and $y(t) = t^2 + 3t$ at $(7, 4)$.

$y =$

7. 2/2 points Previous Answers SCalcET8 10.2.031. My Notes Ask Your Teacher

Use the parametric equations of an ellipse, $x = a\cos(\theta)$, $y = b\sin(\theta)$, $0 \le \theta \le 2\pi$, to find the area that it encloses.

nab

8. 2/0 points Previous Answers SCalcET8 10.2.032.MI. My Notes Ask Your Teacher

Find the area enclosed by the curve $x = t^2 - 2t$, $y = \sqrt{t}$ and the y-axis.

8√215

9. 2/2 points Previous Answers WebAssignCalcET2 9.2.002m.Tut. My Notes Ask Your Teacher

Find the arc length of the curve $x = 4t + 2$, $y = 3t - 4$ where $0 \le t \le 4$.

20

10. 3/3 points Previous Answers SCalcET8 10.2.041. My Notes Ask Your Teacher

Find the exact length of the curve.

$x = 8 + 12t^2, \quad y = 8 + 8t^3, \quad 0 \le t \le 5$

8(26(32)−1)

11. 2/2 points Previous Answers SCalcET8 10.2.042. My Notes Ask Your Teacher

Find the exact length of the curve.

$x = e^t - t, \quad y = 4e^{t/2}, \quad 0 \le t \le 4$

e4+3

12. –/2 points SCalcET8 10.2.044. My Notes Ask Your Teacher

Find the exact length of the curve.

$x = 5\cos(t) - \cos(5t), \quad y = 5\sin(t) - \sin(5t), \quad 0 \le t \le \pi$

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