

Quiz 6A, Calculus 2

Dr. Graham-Squire, Spring 2013

Name: _____

- (3 points) (a) Use the Maclaurin series for e^x to express $x^2e^{-x^3}$ as a power series. Make sure to simplify your answer.
(b) What will be the radius of convergence for the power series you found in part (a)?

- (3 points) Find the second Taylor polynomial ($T_2(x)$, which is the approximation up to the 3rd term) for the function $y = \ln x$ at $a = e$. Note that

$$T_n(x) = \sum_{i=0}^n \frac{f^{(i)}(a)}{i!} (x - a)^i$$

3. (4 points) Match the equation to the graph:

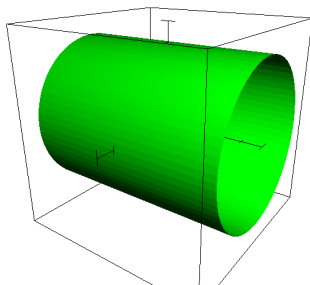
(a) $16 = x^2 + y^2$

(b) $z = x^2$

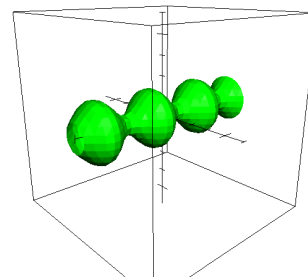
(c) $z^2 + x^2 = 16$

(d) $1 = -\frac{x^2}{25} - \frac{y^2}{16} + \frac{z^2}{9}$

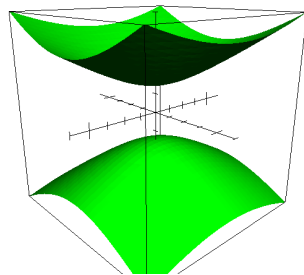
(e) $z^2 + y^2 = (2 + \sin(x))^2$



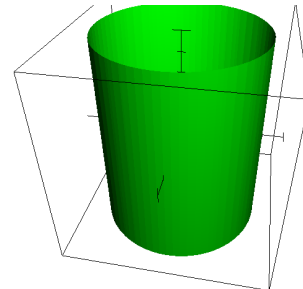
(i)



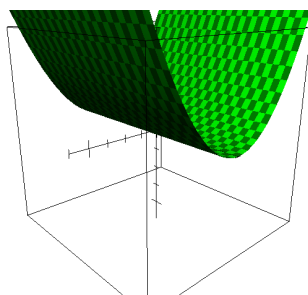
(ii)



(iii)



(iv)



(v)