

NAME:

NetID:

MATH 285 E1/F1 Exam 1 (B) September 19, 2014 Instructor: Pascaleff

Problem	Possible	Actual
1	20	
2	20	
3	20	
4	20	
5	20	
Total	100	

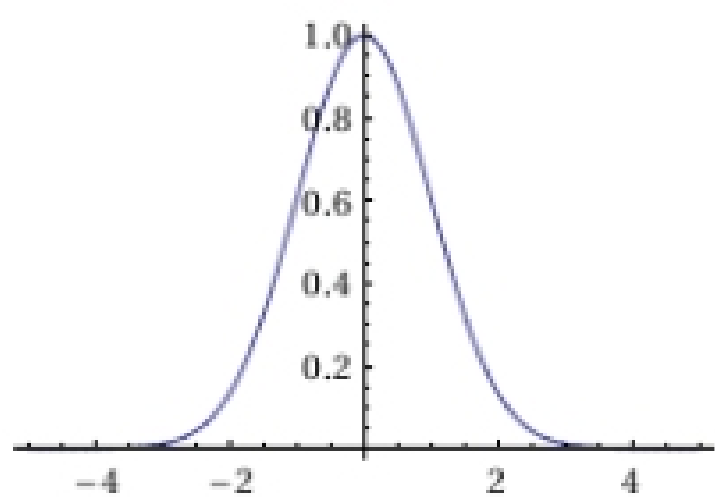
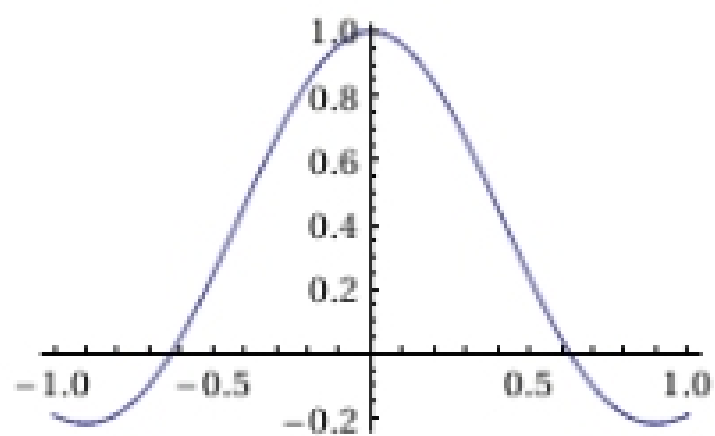
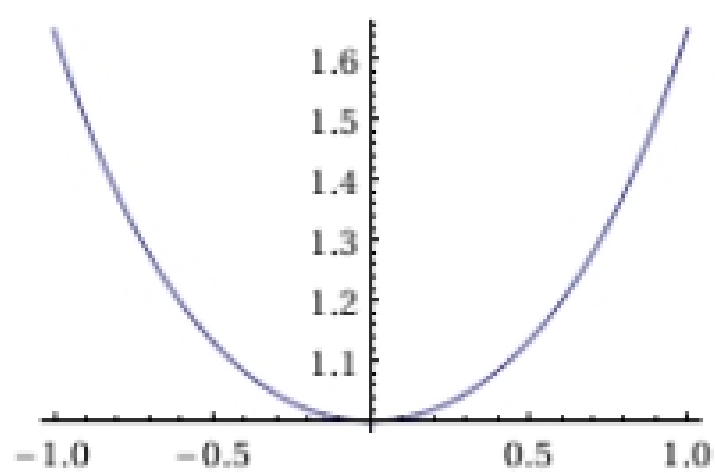
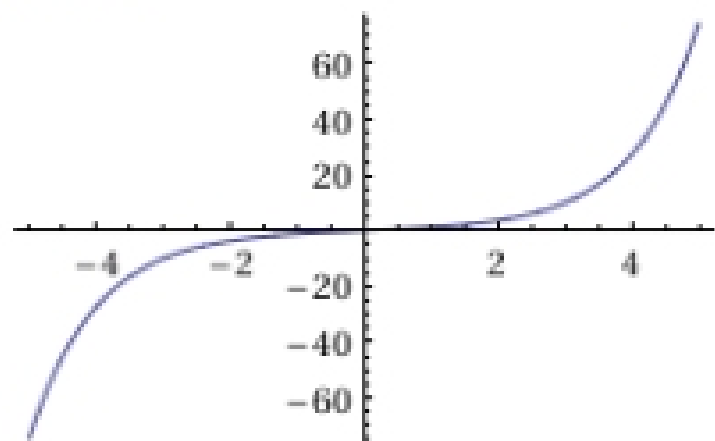
INSTRUCTIONS:

- Do all work on these sheets.
- Show all work.

1. (20 points) Consider the differential equation

$$\frac{dy}{dx} = -xy$$

Which of the following graphs could be a solution curve of this equation? Circle all that apply.



2. (20 points) An object moves along a one-dimensional axis. Its motion is described by a function $x(t)$. It is subjected to an acceleration given by

$$a(t) = 2 + 2\pi \sin(\pi t).$$

Suppose that at $t = 0$, the velocity is zero: $v(0) = 0$. What is the net change in position between $t = 0$ and $t = 1$? That is, what is $x(1) - x(0)$?