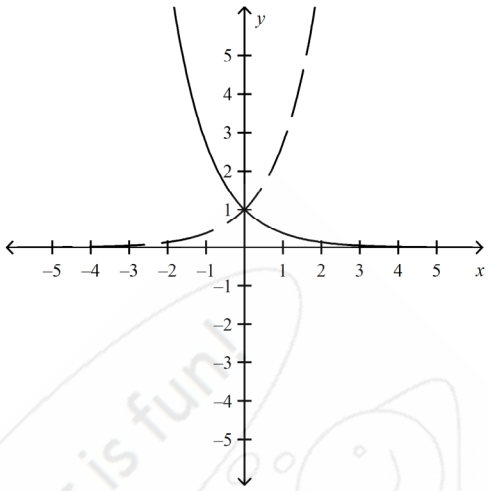
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Natural Base e Functions

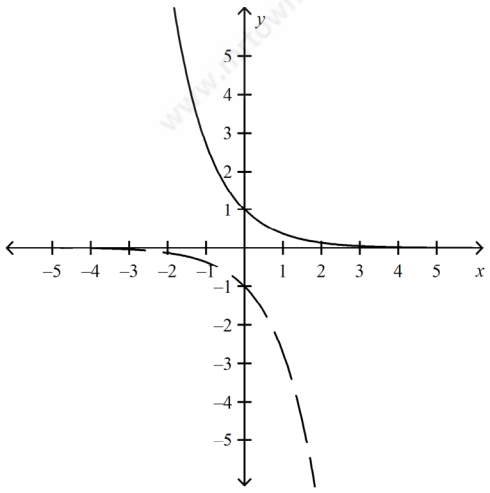
Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. The graph shows the parent function $y = e^x$ with dashes. Which of the following matches the graph of the solid curve?



a. $y = e^x$
b. $y = -e^x$
c. $y = e^{-x}$
d. $y = -e^{-x}$

____ 2. The graph shows the function $y = -e^x$ with dashes. Which of the following matches the graph of the solid curve?



a. $y = -e^x$
b. $y = e^x$
c. $y = -e^{-x}$
d. $y = e^{-x}$

____ 3. The chart shows locations for the function, $y = ae^{rx}$. Which is the closest value of r when a is –0.1?

x	–2	–1	0	1
y	–12.151	–1.102	–0.1	–0.009

a. –2.8
b. –3
c. –2.3
d. –2.4

Numeric Response

4. The chart shows locations for the function, $y = ae^{rx}$. What is the value of r to the nearest tenth when a is –1?

x	–1	0	1	2
y	–11.0232	–1	–0.0907	–0.0082

5. The chart shows locations for the function, $y = ae^{rx}$. What is the value of r to the nearest tenth when a is –1.1?

x	–1	0	1	2
y	–2.4481	–1.1	–0.4943	–0.2221

6. The chart shows locations for the function, $y = ae^{rx}$. What is the value of a to the nearest tenth when r is 2.9?

x	–1	0	1	2
y	–0.022	–0.4	–7.2697	–132.1198

7. The chart shows locations for the function, $y = ae^{rx}$. What is the value of r to the nearest tenth when a is –0.8?

x	–2	–1	0	1
y	–216.3411	–13.1557	–0.8	–0.0486

Natural Base e Functions
Answer Section

MULTIPLE CHOICE

1. ANS: C
2. ANS: D
3. ANS: D

NUMERIC RESPONSE

4. ANS: –2.4
5. ANS: –0.8
6. ANS: –0.4
7. ANS: –2.8