

Exam 1 Fall 22 Key

Form	A	B
1	E	A
2	E	C
3	D	D
4	A	D
5	E	D
6	A	C
7	C	E
8	B	A
9	C	B
10	D	A
11	C	A
12	A	C

Free Response

1. $P(t) = 1 + \frac{2}{t}$
 $Q(t) = 3e^{-t}$
 $\mu(t) = t^2 e^t$
 $y(t) = te^{-t} + \frac{c}{t^2 e^t}$
 $c = 0$

2. $n = -2$
 $v = y^3$
 $\frac{dv}{dx} + 3v = 3e^x$
 $\mu(x) = e^{3x}$
 $y(x) = \sqrt[3]{\frac{3}{4}e^x + Ce^{-3x}}$
 $C = \frac{29}{4}$

3. $\mu(x) = x$
 $f(x, y) = x^2 y^2 + x^2 y + x^4 = C$
 $C = 13$

4. $y = \sqrt{x^2(2x^2 - 1)}$