

Exam

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the particular solution for the initial value problem.

1) $\frac{dy}{dx} = \frac{x^4}{y}$; $y = 4$ when $x = 0$ 1) _____

A) $y^2 = \frac{2x^5}{5} + 4$

B) $y^2 = \frac{2x^5}{5} + 16$

C) $y^2 = \frac{x^5}{5} + 16$

D) $y^2 = \frac{x^5}{5} + 4$

Find the general solution for the differential equation.

2) $y \frac{dy}{dx} = x^2 - 2x$ 2) _____

A) $y = \frac{1}{3}x^3 - 2x + C$

B) $y^2 = \frac{1}{3}x^3 - 2x^2 + C$

C) $y = \frac{2}{3}x^3 - 2x^2 + C$

D) $y^2 = \frac{2}{3}x^3 - 2x^2 + C$

3) $\frac{dy}{dx} = \frac{y}{x^7}$ 3) _____

A) $y = -\frac{x^6}{6} + C$

B) $y = -\frac{1}{6} \ln \frac{1}{x^6} + C$

C) $y = Me^{-1/(8x^8)}$

D) $y = Me^{-1/(6x^6)}$

4) $\frac{dy}{dx} = y^2(4 - e^x)$ 4) _____

A) $y = \frac{1}{e^x - 4x + C}$

B) $y = 4x - e^x + C$

C) $y = \sqrt[3]{\frac{3}{4x - e^x + C}}$

D) $y = \frac{k}{4x - e^x}$

Answer Key

Testname: UNTITLED1

- 1) B
- 2) D
- 3) D
- 4) A