Lesson 7- 7 - **Separable Differential Equations**

1- Find the general solution, in an explicit form if possible. $y' = (x^2 + 1)y$

Choose 1 answer

A- $y = ce^{x+3x^3}$

B- $y = ce^{x+\frac{1}{3}x^3}$

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

D- $y = e^{1+\frac{1}{3}x^3}$

2- Find the general solution, in an explicit form if possible. $y' = 2x(y - 1)$

Choose 1 answer

A- $y = c + e^{x^2}$

B- $y = 1 + ce^{x^2}$

C- $y = 3 + ce^{x^2}$

D- $y = 1 + e^{x^2}$

3- Find the general solution, in an explicit form if possible. $y' = 2x^2y^2$

Choose 1 answer

A- $y = \dfrac{-1}{\frac{2}{3}x^3 + c}$

B- $y = \dfrac{1}{3x^3 + c}$

C- $y = \dfrac{3}{x^3 + c}$

D- $y = \dfrac{1}{\frac{2}{5}x^3 + c}$

4- Find the general solution, in an explicit form if possible. $y' = 2(y^2 + 1)$

Choose 1 answer

A- $y = tan(2x + c)$

B- $y = tan(x + c)$

C- $y = sec(2x + c)$

D- $y = sin(2x + c)$

5- Find the general solution, in an explicit form if possible. $y' = \frac{6x^2}{y(1+x^3)}$

Choose 1 answer

A- $y = \sqrt{4ln|1 + x^3| + c}$

B- $y = \sqrt{ln|1 + x^3| + c}$

C- $y = \pm\sqrt{4ln|1 + x^3| + c}$

D- $y = \pm\sqrt{ln|1 + x^3| + c}$

6- Find the general solution, in an explicit form if possible. $y' = \frac{3x}{y+1}$

Choose 1 answer

A- $\frac{1}{2}y^2 + y = x^2 + c$

B- $y^2 + y = \frac{3}{2}x^2 + c$

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

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