Name : _____ Score : _____

Teacher : _____ Date : _____

Differential Equations

Find the general solution for of each differential equation.

1) $\frac{dy}{dx} = -210 \sec^2(42x)$

2) $\frac{dy}{dx} = 144 \cos(-36x + 36)$

3) $\frac{dy}{dx} = \frac{36}{x^5}$

4) $\frac{dy}{dx} = -36 \sec^2(-6x - 2)$

5) $\frac{dy}{dx} = \frac{-1}{(x + 1)^2}$

6) $\frac{dy}{dx} = 4x^3 + 4x^2 - 7x - 2$

7) $\frac{dy}{dx} = -7x^3 - 7x^2 - 7x - 5$

8) $\frac{dy}{dx} = 6x^2 - 6x + 5$

9) $\frac{dy}{dx} = 72 \sec^2(-12x - 12)$

10) $\frac{dy}{dx} = \frac{-1}{(x + 8)^2}$

11) $\frac{dy}{dx} = -2x^3 - 3x^2 - 4x - 2$

12) $\frac{dy}{dx} = \frac{-3}{(x - 2)^4}$

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Differential Equations

Find the general solution for of each differential equation.

1) $\frac{dy}{dx} = -210\sec^2(42x)$

$y = -5\tan(42x) + C$

2) $\frac{dy}{dx} = 144\cos(-36x + 36)$

$y = -4\sin(-36x + 36) + C$

3) $\frac{dy}{dx} = \frac{36}{x^5}$

$y = \frac{-9}{x^4} + C$

4) $\frac{dy}{dx} = -36\sec^2(-6x - 2)$

$y = 6\tan(-6x - 2) + C$

5) $\frac{dy}{dx} = \frac{-1}{(x + 1)^2}$

$y = \frac{1}{(x + 1)} + C$

6) $\frac{dy}{dx} = 4x^3 + 4x^2 - 7x - 2$

$y = x^4 + \frac{4}{3}x^3 - \frac{7}{2}x^2 - 2x + C$

7) $\frac{dy}{dx} = -7x^3 - 7x^2 - 7x - 5$

$y = -\frac{7}{4}x^4 - \frac{7}{3}x^3 - \frac{7}{2}x^2 - 5x + C$

8) $\frac{dy}{dx} = 6x^2 - 6x + 5$

$y = 2x^3 - 3x^2 + 5x + C$

9) $\frac{dy}{dx} = 72\sec^2(-12x - 12)$

$y = -6\tan(-12x - 12) + C$

10) $\frac{dy}{dx} = \frac{-1}{(x + 8)^2}$

$y = \frac{1}{(x + 8)} + C$

11) $\frac{dy}{dx} = -2x^3 - 3x^2 - 4x - 2$

$y = -\frac{1}{2}x^4 - x^3 - 2x^2 - 2x + C$

12) $\frac{dy}{dx} = \frac{-3}{(x - 2)^4}$

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