

Act 2: Differential equation (separation of variables)

Make a report where you solve by the separable variables method each of the differential equations in the following table.

	Differential Equation	Initial Condition
1	$y' = \frac{3x^2\sqrt{16+y^2}}{y}$	
2	$y' = \frac{x^3\sqrt{x^4-1}}{y^3}$	
3	$y' = \frac{x^3\sqrt{x^4-1}}{y^2}$	
4	$y' = \frac{5x^4\sqrt{y^2+5}}{y}$	
5	$y' = e^{x-y}$	
6	$y' = 4 - 9x^2 - 6x^5$	$y(1) = 2$
7	$y' = 4 - 9x^2 - 6x^5$	$y(1) = 0$
8	$y' = \frac{x}{y}$	$y(1) = 0$
9	$y' + y^2 \sin x = 0$	$y(0) = 1$
10	$y' = \sqrt{xy}$	$y(1) = 0$