

Differential Eqns WS 1

Directions: Find y in terms of x .

$$1) \frac{dy}{dx} = \frac{7x^2}{y^3}, \quad y(3) = 2$$

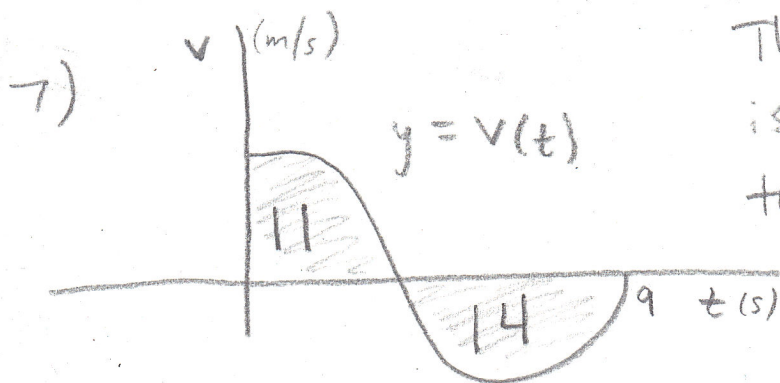
$$2) \frac{dy}{dx} = 5x^2y, \quad y(0) = 6$$

$$3) \frac{dy}{dx} = \frac{1}{y + x^2y}, \quad y(0) = 2$$

$$4) \frac{dy}{dx} = \frac{e^x}{y^2}, \quad y(0) = 1$$

$$5) \frac{dy}{dx} = \frac{y^2}{x^3}, \quad y(1) = 2$$

$$6) \frac{dy}{dx} = \frac{\sin x}{\cos y}, \quad y(0) = \frac{3\pi}{2}$$



The velocity graph of a particle is given. Find the distance the particle traveled after 9 s. Find the particle's displacement from $t = 0$ s to $t = 9$ s. If $S(0) = 6$, Find $S(9)$.