

$$2) (6x+1)y^2 \frac{dy}{dx} + 3x^2 + 2y^3 = 0$$

$$> a: (6x+1)y^2 \frac{dy}{dx} = -2y^3 - 3x^2$$

$$(6x+1) \frac{dy}{dx} = -2y - \frac{3x^2}{y^2}$$

$$\boxed{\frac{dy}{dx} = \frac{-2}{6x+1} y - \frac{3x^2}{6x+1} y^{-2}}$$

The ode in standard form is

$$y'(x) = \left(-\frac{2}{6x+1}\right)y + \left(-\frac{3x^2}{6x+1}\right)y^{-2}$$

$$> b: (6x+1)y^2 \frac{dy}{dx} = -2y^3 - 3x^2$$

$$(6x+1) \frac{dy}{dx} = -2y - \frac{3x^2}{y^2}$$

$$\boxed{\frac{dy}{dx} = \frac{-2}{6x+1} y - \frac{3x^2}{6x+1} y^{-2}}$$

The ode in normal form is

$$y'(x) = \left(-\frac{2}{6x+1}\right)y + \left(-\frac{3x^2}{6x+1}\right)y^{-2}$$

$$> c: (6x+1)y^2 \frac{dy}{dx} = -2y^3 - 3x^2$$

$$(6x+1)y^2 dy = -(2y^3 + 3x^2)dx$$

$$\boxed{(6x+1)y^2 dy + (2y^3 + 3x^2)dx = 0}$$

The ode in differential form is

$$(6x+1)y^2 dy + (2y^3 + 3x^2)dx = 0.$$