

$$5. \quad y = 2^x \quad y = a^x$$

$$16 = a^2$$

$$\sqrt{16} = a$$

$$a = \pm 4$$

$$y = 4^x$$

$$6. \quad y = 4^x \quad y = \log_4 x$$

$$7. \quad f(x) = x^2 - 5 \quad g(x) = 2x + 1$$

$$f(g(x)) = (2x + 1)^2 - 5$$

$$= 4x^2 + 4x + 1 - 5$$

$$= 4x^2 + 4x - 4$$

$$8. \quad y = \frac{x^5 + 3}{x^3}$$

$$y = x^{5-3} + 3x^{-3}$$

$$= x^2 + 3x^{-3}$$

$$\frac{dy}{dx} = 2x - 9x^{-4}$$

$$= 2x - \frac{9}{x^4}$$