

Integration Power Rule

Evaluate each indefinite integral.

$$1) \int -24x^5 dx = \frac{-24x^6}{6} + C$$

$$-4x^6 + C$$

$$\boxed{-4x^6 + C}$$

$$2) \int -3 dx = \boxed{-3x + C}$$

$$-3x + C$$

$$3) \int -6x dx = \frac{-6x^2}{2} = \boxed{-3x^2 + C}$$

$$-3x^2 + C$$

$$4) \int 12x^2 dx = \frac{12x^3}{3} = \boxed{4x^3 + C}$$

$$4x^3 + C$$

$$5) \int (-24x^5 - 10x) dx = \frac{-24x^6}{6} - \frac{10x^2}{2}$$

$$-4x^6 - 5x^2 + C$$

$$= \boxed{-4x^6 - 5x^2}$$

$$6) \int (-9x^2 + 10x) dx = -\frac{9x^3}{3} + \frac{10x^2}{2}$$

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

$$= \boxed{-3x^3 + 5x^2 + C}$$

$$7) \int 4x^{-5} dx = \frac{4x^{-4}}{-4} + C$$

$$-\frac{1}{x^4} + C$$

$$\boxed{-\frac{1}{x^4} + C}$$

$$8) \int -2x^{-3} dx = \frac{-2x^{-2}}{-2} + C$$

$$\frac{1}{x^2} + C$$

$$= \boxed{\frac{1}{x^2} + C}$$

$$9) \int (-2x^{-3} + 20x^{-5}) dx = \frac{-2x^{-2}}{-2} + \frac{20x^{-4}}{-4}$$

$$\frac{1}{x^2} - \frac{5}{x^4} + C$$

$$= \frac{1}{x^2} - \frac{5}{x^4} + C$$

$$10) \int (-4x^{-3} - 20x^{-5}) dx = \frac{-4x^{-2}}{-2} - \frac{20x^{-4}}{-4}$$

$$\frac{2}{x^2} + \frac{5}{x^4} + C$$

$$= \frac{2}{x^2} + \frac{5}{x^4} + C$$

$$11) \int (-4x^{-3} - 8x^{-5}) dx = \frac{-4x^{-2}}{-2} - \frac{8x^{-4}}{-4}$$

$$\frac{2}{x^2} + \frac{2}{x^4} + C$$

$$= \frac{2}{x^2} + \frac{2}{x^4} + C$$

$$12) \int (15x^{-4} + 8x^{-5}) dx = \frac{15x^{-3}}{-3} + \frac{8x^{-4}}{-4}$$

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

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

$$13) \int (-7x^{5/2} - \frac{14x^2}{2}) dx = \frac{-7x^{7/2}}{7/2} = -7x^{7/2} \cdot \frac{2}{7}$$

$$-2x^2 + C$$

$$= -2x^{7/2} + C$$

$$14) \int (-7x^{2/5} - \frac{35x^5}{5}) dx = \frac{-7x^{7/5}}{7/5} = -7x^{7/5} \cdot \frac{5}{7}$$

$$-5x^5 + C$$

$$= -5x^{7/5} + C$$

$$15) \int (-\frac{5}{3}x^{2/3} - \frac{5\sqrt[3]{x^2}}{3}) dx = \frac{-\frac{5}{3}x^{5/3}}{5/3} = \frac{-5x^{5/3}}{5} \cdot \frac{3}{3}$$

$$-x^{5/3} + C$$

$$= \frac{-5 \cdot 3}{3 \cdot 5} x^{5/3} = -x^{5/3} + C$$

$$16) \int (-\frac{5}{2}x^{1/4} - \frac{5\sqrt[4]{x}}{2}) dx = \frac{-\frac{5}{2}x^{5/4}}{5/4} = \frac{-5x^{5/4}}{2} \cdot \frac{4}{5}$$

$$-2x^{5/4} + C$$

$$= -2x^{5/4} + C$$