

Student Name: _____

Score: _____

Integration using Power Rule

Integrate the following w.r.t. x

$$\int 4x^3 dx$$

$$\int (7x^3 - \frac{4}{5}x^{-\frac{9}{2}} + x^{\frac{4}{3}}) dx$$

$$\int (x^{\frac{1}{2}} + 3x^2) dx$$

$$\int (\frac{2x^2}{\sqrt{x}} + \frac{3\sqrt{x}}{x^2}) dx$$

$$\int (\frac{8}{\sqrt{x}} + 7\sqrt{x}) dx$$

$$\int (8x^5 + 7) dx$$

$$\int (5x^9 + 4x^{-9}) dx$$

$$\int (\frac{4x^7}{5} - 3\sqrt[5]{x}) dx$$

$$\int (\frac{x^{\frac{1}{3}} - x^{\frac{1}{2}}}{\sqrt[3]{x}}) dx$$

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Answer key

Integration using Power Rule

$$x^4 + C$$

$$\frac{7x^4}{4} + \frac{8x^{-7}}{35} + \frac{3x^{\frac{7}{3}}}{7} + C$$

$$\frac{2x^{\frac{3}{2}}}{3} + x^3 + C$$

$$4x^{\frac{5}{2}} + 6$$

$$16\sqrt{x} + \left(\frac{14}{3}\right)x$$

$$\frac{4x^6}{3} + 7x + C$$

$$\frac{x^{10}}{2} - \frac{x^{-8}}{2} + C$$

$$\frac{x^8}{10} - \frac{5x^{\frac{6}{5}}}{2} + C$$

$$x - \frac{6x^{\frac{7}{6}}}{7} + C$$

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