Integration using Power Rule

Integrate the following w.r.t. $x$

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

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

\[
\int (\frac{8}{\sqrt{x}} + 7\sqrt{x}) \, dx \\
\int (8x^5 + 7) \, dx
\]

\[
\int (5x^9 + 4x^{-9}) \, dx
\]

\[
\int (\frac{4x^7}{5} - 3\sqrt[5]{x}) \, dx \\
\int (\frac{x^\frac{1}{3} - x^\frac{1}{2}}{\sqrt[3]{x}}) \, dx
\]
Integration using Power Rule

\[ x^4 + C \]
\[ \frac{7x^4}{4} + \frac{8x^{-2}}{35} + \frac{3x^{7/3}}{7} + C \]
\[ \frac{2x^{3/2}}{3} + x^3 + C \]
\[ \frac{4x^6}{3} + 7x + C \]
\[ 16\sqrt{x} + \left(\frac{14}{3}\right)x \]
\[ \frac{x^{10}}{2} - \frac{x^{-8}}{2} + C \]
\[ \frac{x^8}{10} - \frac{5x^6}{2} + C \]
\[ x - \frac{6x^7}{7} + C \]