\[ C(x) = x^{1/3} (x + 4) \]

\[ C'(x) = \frac{1}{3} x^{-2/3} (x+4) + x^{1/3} \cdot \frac{2}{3} \]

\[ = x^{-2/3} \left( \frac{1}{3} (x+4) + x \right) \]

\[ = x^{-2/3} \left( \frac{4}{3} x + \frac{4}{3} \right) \]

\[ = \frac{4}{3} x^{-2/3} (x + 1) \]
\[ C'(x) = \frac{4}{3} x^{-2/3} (x + 1) \]
\[ C'(x) = \frac{4}{3} x^{-2/3} (x + 1) \]

\[ C''(x) = -\frac{8}{9} x^{-5/3} (x+1) + \frac{4}{3} x^{-2/3} \]

\[ = \frac{4}{3} x^{-5/3} \left( \frac{-2}{3} (x+1) + x \right) \]

\[ = \frac{4}{3} x^{-5/3} \left( \frac{1}{3} x - \frac{2}{3} \right) \]

\[ = \frac{4}{9} x^{-5/3} (x - 2) \]
\[ C''(x) = \frac{4}{a} x^{-5/3} (x - 2) \]
$C' = \frac{-1}{\text{dec inc inc inc}}$

$C'' = \frac{\text{ccr inc ccr inc}}{\text{ccr inc inc inc}}$

Shape of $C$

$C(-1) = 3$
$C(0) = 0$
$C(2) = 6 \sqrt{2}$

$C(x) = x^{\frac{1}{3}} (x+4)$

$\text{y.e.}$

$C(0) = 0$
$C(-4) = 0$