

Alumna: Ingrid Anzueto.

$$Y = \frac{1}{2x^2} + \frac{4}{\sqrt{x}} = \frac{1}{2} x^{-2} + 4x^{-1/2}$$

$$Y' = \frac{-2}{2} x^{-3} + 4 \left(\frac{-1}{2} \right) x^{-3/2}$$

$$-x^{-3} - 2x^{-3/2}$$

$$= -\frac{1}{x^3} - \frac{2}{x^{3/2}}$$

$$= -\frac{1}{x^3} - \frac{2}{\sqrt{x^3}}$$

$$\begin{aligned}
 Y &= 3x^{1/2} - x^{3/2} + 2x^{-1/2} \\
 &= -3\left(\frac{1}{2}\right)x^{-1/2-2/2} - x^{-1/2-3/2} + 2\left(\frac{1}{2}\right)x^{-1/2-2/2} \\
 &= -x^{-3/2} - x^{-4/2} + x^{-3/2} \\
 &= \frac{-1}{x^{3/2}} - \frac{1}{x^{4/2}} + \frac{1}{x^{3/2}} \\
 &= \frac{-1}{\sqrt{x^3}} - \frac{1}{\sqrt{x^4}} + \frac{1}{\sqrt{x^3}}
 \end{aligned}$$

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$$\begin{aligned}
 Y &= x^8 + 5x^6 - 10x^3 + 6 \\
 \frac{d}{dx}(5x^6) + \frac{d}{dx}(x^8) - \frac{d}{dx}(10x^3) + \frac{d}{dx}(6) \\
 &= 5 \frac{d}{dx}(x^6) + 8x^{8-1} - 10 \frac{d}{dx}(x^3) \\
 &= 5(6)x^{6-1} + 8x^7 - 10(3)x^{3-1} \\
 &= \underline{30x^5 + 8x^7 - 30x^2}
 \end{aligned}$$

$$F(t) = \frac{2}{\sqrt{t}} + \frac{6}{\sqrt[3]{t}}$$

$$= \frac{2}{t^{1/2}} + \frac{6}{t^{1/3}}$$

$$= 2t^{-3/2} + 6t^{-1/3}$$

$$= -2\left(\frac{1}{2}\right)t^{-1/2-2/2} + 6\left(-\frac{1}{3}\right)t^{-1/3-3/3}$$

$$= -t^{-3/2} - 2t^{-4/3}$$

$$= \frac{-1}{t^{3/2}} - \frac{2}{t^{4/3}} = \frac{-1}{\sqrt{t^3}} - \frac{2}{\sqrt[3]{t^4}}$$
