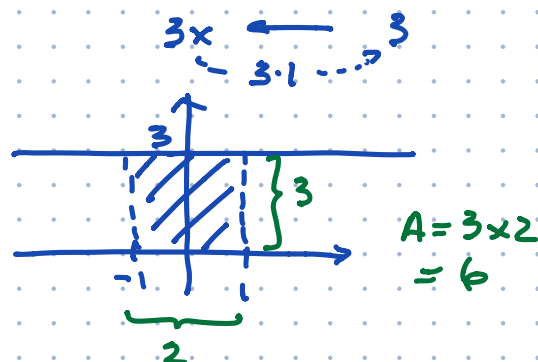


More Examples

$$\begin{aligned}\int_{-1}^1 3 \, dx &= 3x \Big|_{-1}^1 \\ &= (3 \cdot 1) - (3 \cdot -1) \\ &= 3 - -3 \\ &= 6 \checkmark\end{aligned}$$

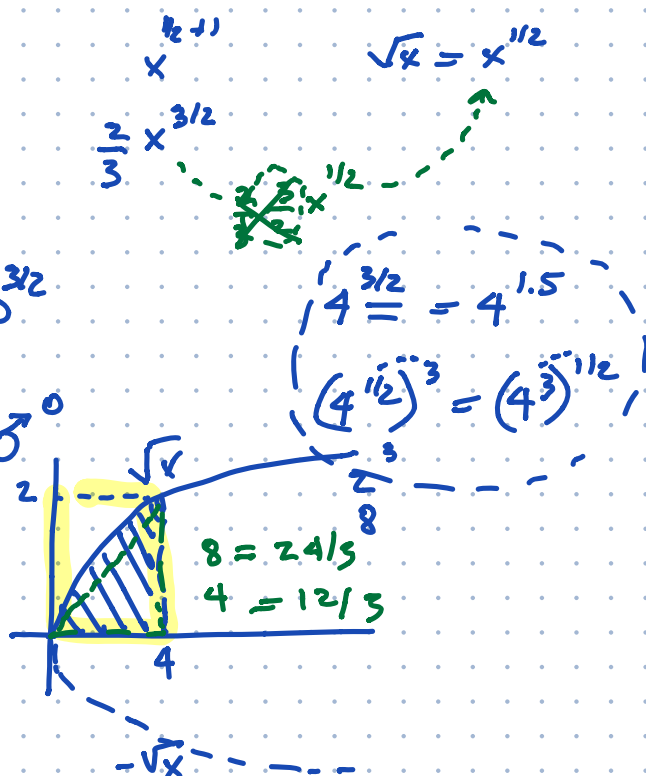


$$\int_0^4 \sqrt{x} \, dx = \frac{2}{3} x^{3/2} \Big|_0^4$$

$$= \frac{2}{3} 4^{3/2} - \frac{2}{3} 0^{3/2}$$

$$= \frac{2}{3} \cdot 8 - \frac{2}{3} \cdot 0$$

$$= \frac{16}{3} \leftarrow$$



$$\int_{0.5}^{0.8} (4.2x^3 - 5.9x^2 + 2.3x - 7.1) dx$$

$$= \left[4.2 \frac{x^4}{4} - 5.9 \frac{x^3}{3} + 2.3 \frac{x^2}{2} - 7.1x \right]_{0.5}^{0.8} \quad \begin{array}{l} \frac{1}{4} \cdot \frac{x^4}{1} \\ \frac{x^4}{4} \end{array}$$

$$= \frac{4.2(0.8)^4}{4} - \frac{5.9(0.8)^3}{3} + \frac{2.3(0.8)^2}{2} - 7.1(0.8) - \left(\frac{4.2(0.5)^4}{4} - \frac{5.9(0.5)^3}{3} + \frac{2.3(0.5)^2}{2} - 7.1(0.5) \right) \quad \begin{array}{l} F(b) \\ - \\ F(a) \end{array}$$

$$= \dots$$

$$\int_0^{\pi} (x - e^x + \cos x) dx$$

$$= \left[\frac{x^2}{2} - e^x + \sin x \right]_0^{\pi}$$

$$\frac{x^2}{2} \leftarrow x$$

$$e^x \leftarrow e^x$$

$$\sin x \leftarrow \cos x$$

$$= \left(\frac{\pi^2}{2} - e^{\pi} + \sin \pi \right) - \left(\frac{0^2}{2} - e^0 + \sin 0 \right)$$

$$= \frac{\pi^2}{2} - e^{\pi} + 1$$

$$= 4.9... - 23... + 1$$

$$\approx -17.20589043$$

