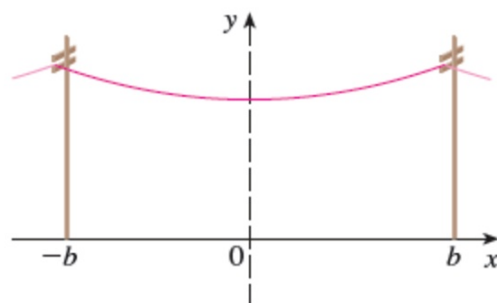---

(P549 #9)   1. Find the exact length of the curve: $y = 1 + 6\,x^{3/2}, \quad 0 \le x \le 1$

(P550 #44)   2. The figure shows a telephone wire hanging between two poles at $x = -b$ and $x = b$. It takes the shape of a catenary with equation $y = c + a\cosh(x/a)$. Find the length of the wire.

3. Determine whether each integral is convergent or divergent. Evaluate those that are convergent.

(a) $\displaystyle\int_0^\infty \frac{1}{x^2}\,dx$

(p534 #30)   (b) $\displaystyle\int_1^2 \frac{x}{(x-1)^2}\,dx$

4. Use the Comparison Theorem to determine whether the integral is convergent or divergent. If convergent please find an upper bound.

(p535 #49)   (a) $\displaystyle\int_1^\infty \frac{x}{x^3+1}\,dx$

(p535 #50)   (b) $\displaystyle\int_1^\infty \frac{1+\sin^2 x}{\sqrt{x}}\,dx$