Quick Exercises

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$$F'(t) = \frac{1}{4}t^{-3/4} - 4\mathrm{e}^{t} - 6t$$

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$$f'(x) = \frac{3}{2}x^{1/2} + \frac{3}{2}x^{-1/2} - \frac{1}{2}x^{-3/2}$$

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The two lines are:

$$y - 2 = \frac{3}{2}(x - 1) \qquad y - 2 = -\frac{2}{3}(x - 1)$$

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$$v(t) = s'(t) = \mathrm{e}^t - 4t^3 \qquad a(t) = s''(t) = \mathrm{e}^t - 12t^2$$

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$$f'(x) = \begin{cases} -2x & \text{if } -3 < x < 3 \\ 2x & \text{if } x < -3 \text{ or } x > 3 \end{cases}$$

with $f'(\pm 3)$ DNE.