1. Let $f(x) = x^2 - 4x + 3$.

(a) Graph $f(x)$.

(b) At what point $(x, f(x))$ does the function have a tangent line with zero slope

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2. Where does the line $y = 2x + 1$ intersect the parabola $y = x^2 - 3x + 1$?

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3. Graph the function

$$g(x) = \begin{cases} -1 & x < 2 \\ 3 & x = 2 \\ 1 & x > 2 \end{cases}$$

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4. The function $s(t)$ represents the position of a point moving along a line. Suppose $s(12) = 8$ and $s(15) = 4$. What is the average velocity of the point on the interval of time $[12, 15]$?