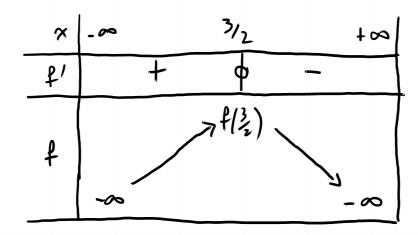
2.
$$f'(x) = -2x + 3$$



$$f\left(\frac{3}{2}\right) = -\left(\frac{3}{2}\right)^2 + 3\left(\frac{3}{2}\right) + 5 = -\frac{9}{4} + \frac{9}{2} + \frac{9}{2} = \frac{-9 + 18 + 20}{4} = \frac{29}{4}$$

$$\lim_{x\to+\infty} f(x) = \lim_{x\to+\infty} (-x^2) = -\infty$$