

$$\frac{1}{(680)} \quad ① \quad y' = \frac{2x(x+1) - x^2}{(x+1)^2} = \frac{x^2 + 2x}{(x+1)^2} \quad ② \quad y'(3) = \frac{3^2 + 2 \cdot 3}{(3+1)^2} = \frac{15}{16}$$

$$\frac{3}{(680)} \quad y' = \frac{(x-3) - (x-7)}{(x-3)^2} = \frac{4}{(x-3)^2}$$

$$y'(5) = \frac{4}{4} = 1$$

$$y'(2) = \frac{4}{1} = 4$$

$$y'(0) = \frac{4}{9}$$

$$\frac{2}{(680)} \quad y' = \frac{(x^2 - 4x) - (2x - 4)(x+1)}{(x^2 - 4x)^2} = \frac{x^2 - 4x - 2x^2 - 2x + 4x + 4}{(x^2 - 4x)^2} = \frac{-x^2 - 2x + 4}{(x^2 - 4x)^2}$$

$$y'(2) = \frac{-4 - 4 + 4}{(4 - 8)^2} = \frac{-4}{16} = -\frac{1}{4}$$

$$\frac{4}{(680)} \quad ① \quad y' = \frac{1}{6} - \frac{6}{x^2} \rightarrow y'(3) = \frac{1}{6} - \frac{6}{3^2} = -\frac{1}{2}$$

$$② \quad y' = \frac{(2x+3)(x+3) - (x^2+3x+1)}{(x+3)^2} = \frac{x^2 + 6x + 8}{(x+3)^2}$$

$$y'(-1) = \frac{1 - 6 + 8}{2^2} = \frac{3}{4}$$

$$\frac{5}{(680)} \quad y' = \frac{(x-1) - (x+3)}{(x-1)^2} = \frac{-4}{(x-1)^2}$$

$$-1 = \frac{-4}{(x-1)^2} \rightarrow (x-1)^2 = 4 \rightarrow x = 3, -1$$

נפונה את הנקודה
ש-1 - הנקודה:

$$\frac{6}{(680)} \quad f' = \frac{2x(x-2) - x^2}{(x-2)^2} = \frac{x^2 - 4x}{(x-2)^2}$$

$$-3 = \frac{x^2 - 4x}{(x-2)^2} / (x-2)^2$$

$$-3x^2 + 12x - 12 = x^2 - 4x$$

$$4x^2 - 16x + 12 = 0$$

$$x = 3 \quad (3, 9)$$

$$x = 1 \quad (1, -1)$$

צביעה ה- x
הפונקציה f(x) והנקודה
שהנקודה הן: