

Hornerovo schéma

1) Určete hodnotu polynomu P v bodě x_0 :

- $P(x) = x^3 + 4x^2 + 2x + 3$ $x_0 = 2$ $[P(x_0) = 31]$
- $P(x) = x^3 + 4x^2 + 2x + 3$ $x_0 = 3$ $[P(x_0) = 72]$
- $P(x) = x^4 - x^3 - 7x^2 + x + 6$ $x_0 = -2$ $[P(x_0) = 0]$
- $P(x) = x^5 - 3x^3 + 2x - 2$ $x_0 = 3$ $[P(x_0) = 166]$
- $P(x) = x^4 - 2x^2 + x - 4$ $x_0 = -1$ $[P(x_0) = -6]$
- $P(x) = -x^6 + 3x^4 - 2x + 5$ $x_0 = 2$ $[P(x_0) = 113]$

2) Vezměte Taylorův polynom stupně m v bodě x_0 :

- $P(x) = x^4 - 8x^3 + 24x^2 - 50x + 90$ $m = 4$ $x_0 = 2$
 $[T_4(x) = 38 - 18(x-2) + (x-2)^4]$

- $P(x) = x^5$ $x_0 = 1$ $m = 4$
 $[T_4(x) = 1 + 5(x-1) + 10(x-1)^2 + 10(x-1)^3 + 5(x-1)^4]$

- $P(x) = x^4 - 2x^2 + 3x - 1$ $x_0 = 2$ $m = 3$
 $[T_3(x) = 13 + 27(x-2) + 22(x-2)^2 + 8(x-2)^3]$

- $P(x) = x^5 + 2x^4 + 5x^3 - 3x^2 - 2x + 7$ $x_0 = 1$ $m = 5$
 $[T_5(x) = 10 + 20(x-1) + 34(x-1)^2 + 23(x-1)^3 + 7(x-1)^4 + (x-1)^5]$

- $P(x) = x^5 - 2x^3 + x - 6$ $x_0 = -2$ $m = 3$
 $[T_3(x) = -24 + 57(x+2) - 68(x+2)^2 + 38(x+2)^3]$

- $P(x) = x^2 - x^5 + 3x^2 - 5x + 2$ $x_0 = -1$ $m = 4$
 $[T_4(x) = 10 - 9(x+1) - 8(x+1)^2 + 25(x+1)^3 - 30(x+1)^4]$