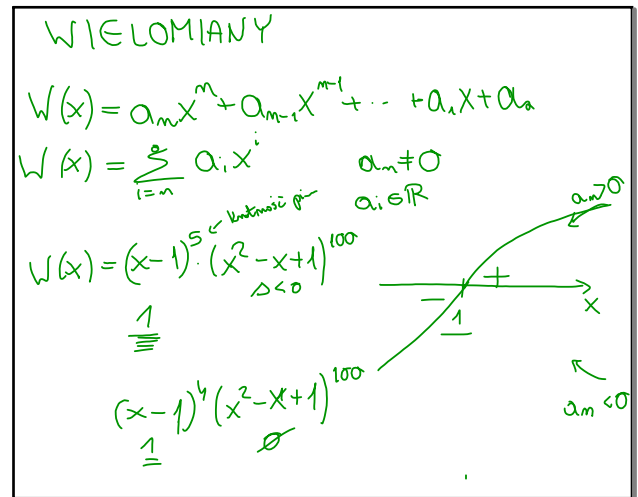




8.219 a) $x^4 + 4x^3 - 5x^2 - 20x = 0$
 $x^4 + 4x^3 = 5x^2 + 20x$
 $\overline{x^4 + 4x^3 - 5x^2 - 20x = 0}$
 $\overline{x^4 + 4x^3 - 5x^2 - 20x = 0}$
 $\overline{x(x+4)(x^2-5) = 0}$
 $\overline{x(x+4)(x-5)(x+1) = 0}$

8.221) $6x^3 - 11x^2 - 12x + 5 = 0$
 $6(x+1)(x-\frac{1}{3})(x-\frac{5}{2}) = 0$

Graph of the cubic function $y = 6x^3 - 11x^2 - 12x + 5$ showing roots at $x = -1$, $x = \frac{1}{3}$, and $x = \frac{5}{2}$.

4 mögliche Anordnungen abhängig 10 charakterist.

a b c d

11 mögliche Anordnungen
keiner nie -
paar sei.

III $\times$ 11 spaa
II I $\times$ 11 $\cdot$ 10

I I I
(11) $\in \mathbb{N}$

11 $\cdot$ 10 $\cdot$ 3 = 105
62 110 $\cdot$ 10

$$\binom{11}{1} + 2 \cdot \binom{11}{2} + \binom{11}{3} = \binom{11}{1} + \binom{11}{2} + \binom{11}{2} + \binom{11}{3}$$

$$11 \cdot 10 = \binom{11}{2} \cdot 2$$

$$\binom{12}{2} + \binom{12}{3}$$

$$\frac{3}{4} \frac{4}{3} \quad \{3, 4\} \quad \binom{11}{3} \cdot 3! \quad \binom{13}{3}$$

$$? \binom{n+k-1}{k} \binom{n+k-1}{3} \quad \text{Komb.} \rightarrow \text{290WT.}$$