





Bell Work Factor:

$$x^4 - 4x^3 - 21x^2$$

$$x^2(x^2 - 4x - 21)$$

$$x^2(x - 7)(x + 3)$$

$$\begin{array}{r|l} -4 & -21 \\ \hline -4 & -7, 3 \end{array}$$

	Even Degree	Odd Degree
Positive Coefficient	 UP UP	 Down UP
Negative Coeff.	 Down Down	 UP Down

$$y = 5x^2 - 3x^3 + 2x + 0$$

UP DOWN

$$y = 4x^3 - 2x^2 + 7x$$

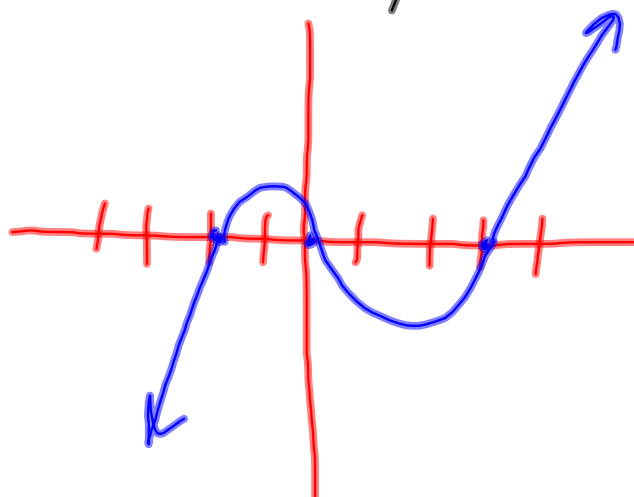
DOWN UP

Zero Product Rule

$$Y = X(X-3)(X+2)$$

$\begin{array}{r} X=0 \\ \hline X=3 \end{array}$	$\begin{array}{r} X-3=0 \\ +3+3 \\ \hline X=3 \end{array}$	$\begin{array}{r} X+2=0 \\ -2-2 \\ \hline X=-2 \end{array}$
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$$X = -2, 0, 3$$



$$(X-3)(X+2)$$

$$X^2 - X - 6$$

$$Y = X^3 - X^2 - 6X$$

odd
positive

Down Up

Rational Roots

$$y = \underset{\nearrow}{(3)}x^2 - x^2 + 2x \underset{\nwarrow \text{constant}}{(-7)}$$

$$\frac{1, 7}{1, 3}$$

$$\text{Rational} = \frac{\text{Factors Const}}{\text{Factors Coef.}}$$

$$= \frac{1}{1}, \frac{1}{3}, \frac{7}{1}, \frac{7}{3}$$

$$0 = y = 3(1)^2 - (1)^2 + 2(1) - 7$$

$$-3 = 3 - 1 + 2 - 7$$