

- A. Solve the following polynomial by factoring and graph the function.
- B. Plot the x-intercepts, y-intercepts, and vertices and sketch a smooth curve with arrows.
- C. Label the values of the vertices to 2 decimal places.

1. $f(x) = -5x^4 + 17x^3 + 39x^2 - 153x + 54$
 $f(x) = -(x-3)(5x^3 - 2x^2 - 45x + 18)$

Factored Form: $-(x-3)^2(5x-2)(x+3)$
 $-(x-3)(x-3)(5x-2)(x+3)$

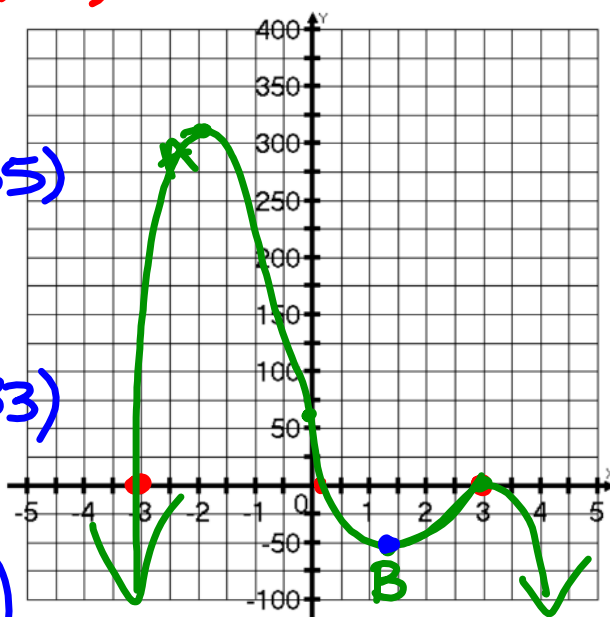
Zeros: $x = 3$ (mult. of 2), $2/5, -3$

X-Intercepts: $(-3, 0), (2/5, 0), (3, 0)$

Y-Intercept: $(0, 54)$

Maxima:
 Absolute: $(1.84, 304.35)$
 Relative: $(3, 0)$

Minima:
 Absolute: none
 Relative: $(1.39, -56.33)$



- A $(1.84, 304.35)$
- B $(1.39, -56.33)$
- C $(3, 0)$