Algebra 2 **Name** _____

Unit 3A: Graphing Polynomials

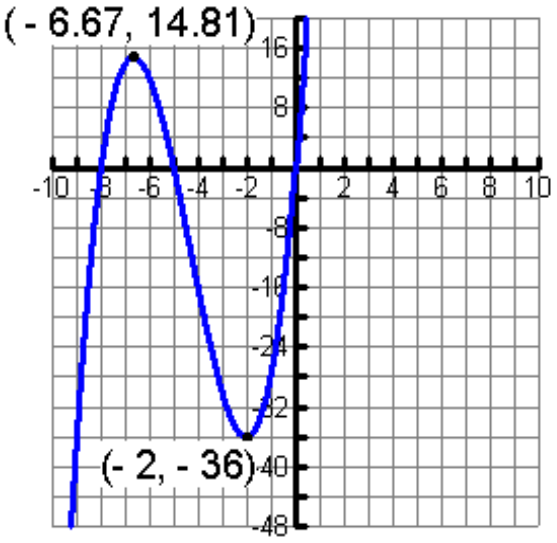
Characteristics of Polynomial Graphs WS

Given the functions and their graphs, describe all the characteristics for each of the following. For domain and range, give both the inequality statement and interval notation format. Leave zeros in radical form and x-intercepts put in decimal form where applicable. Round to 3 decimal places.

1. $f(x) = x(x+5)(x+8)$ Domain: Range:

Work:

x-intercepts: y-intercepts:



zeros:

end behaviors:

intervals of increasing:

intervals of decreasing:

maximums minimums

extrema: extrema:

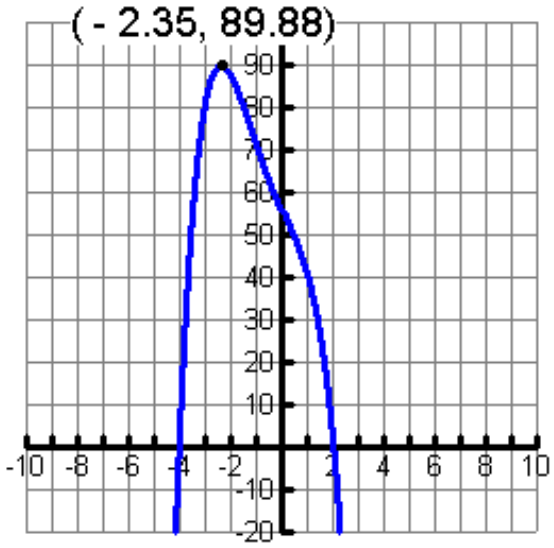
relative: relative:

2. $f(x) = -(x-2)(x+4)(x^2+7)$ Domain: Range:

Work:

x-intercepts: y-intercepts:

zeros:



end behaviors:

intervals of increasing:

intervals of decreasing:

maximums minimum

extrema: extrema:

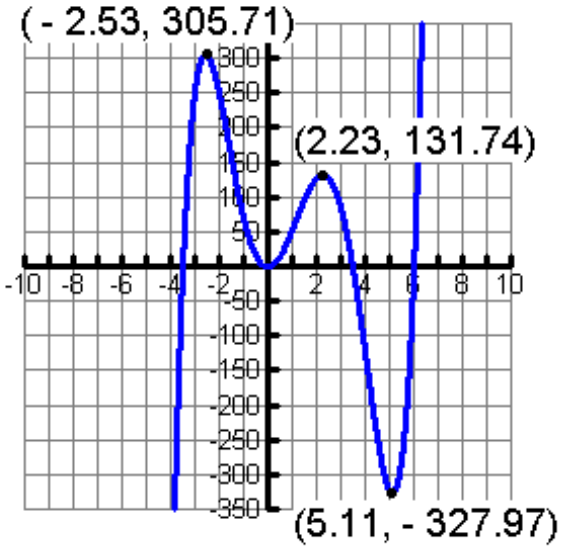
relative: relative:

3. $f(x) = x^2(x-6)(x^2-12)$ Domain: Range:

Work:

x-intercepts: y-intercepts:

zeros:



end behaviors:

intervals of increasing:

intervals of decreasing:

maximums minimum

extrema: extrema:

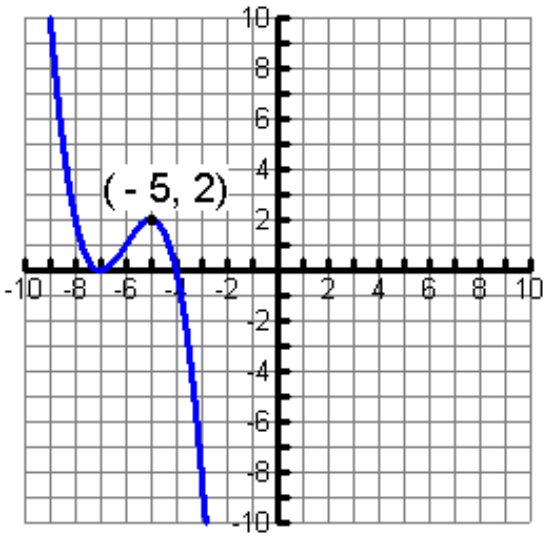
relative: relative:

4. $f(x) = -\frac{1}{2}(x+7)^2(x+4)$ Domain: Range:

Work:

x-intercepts: y-intercepts:

zeros:



end behaviors:

intervals of increasing:

intervals of decreasing:

maximums minimum

extrema: extrema:

relative: relative: