Objective 2 - Graph Polynomials

Convert between a polynomial function and its graph.

Link to section in online textbook.

You can print out these notes to follow along with the video below and keep notes to organize your thoughts.

YouTube link: `https://www.youtube.com/watch?v=Jv_fdXYq9c4`

Now practice converting between the graph and the corresponding equation.

Question 1 *Write an equation of the function graphed below.*

Learning outcomes:
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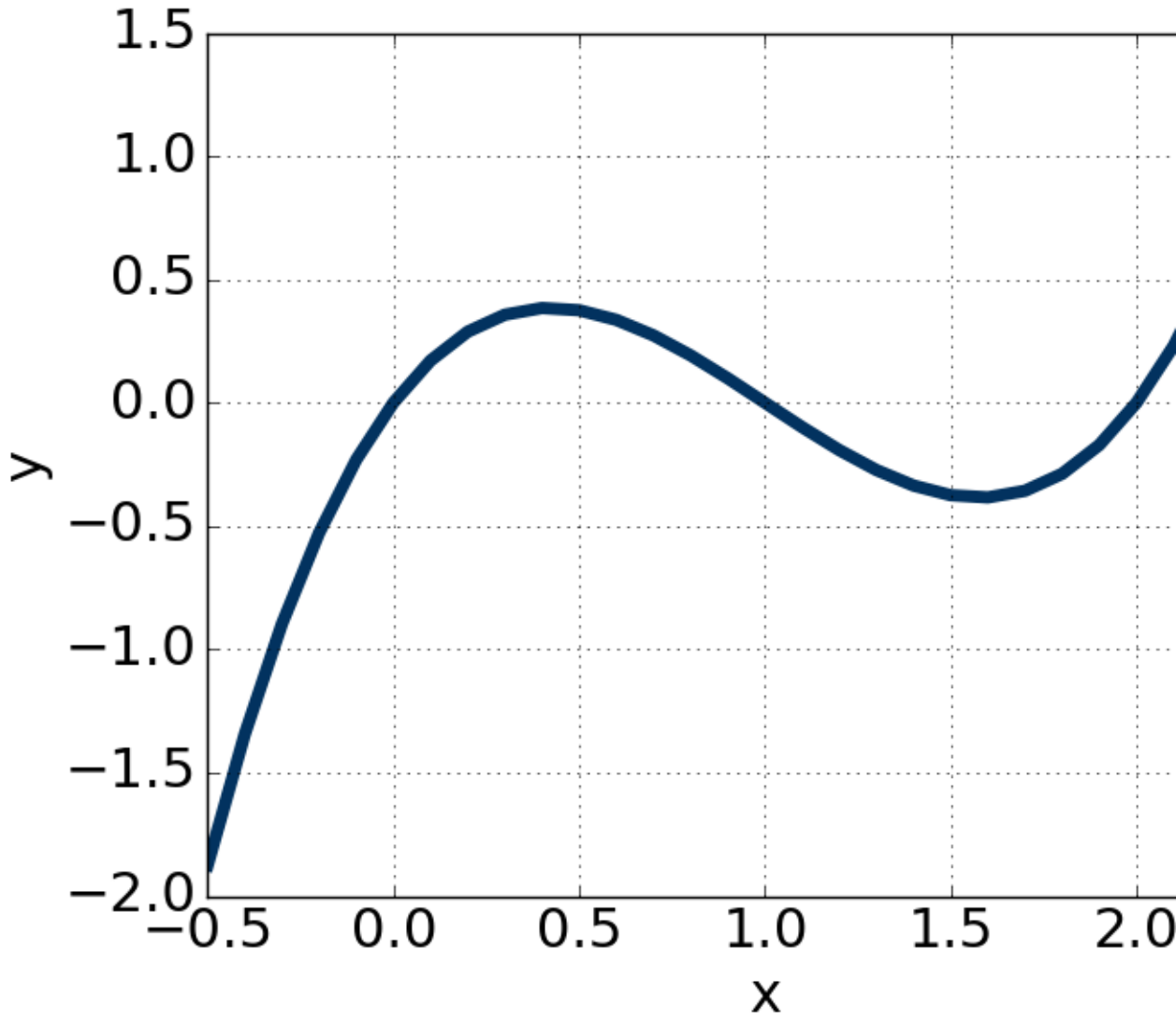
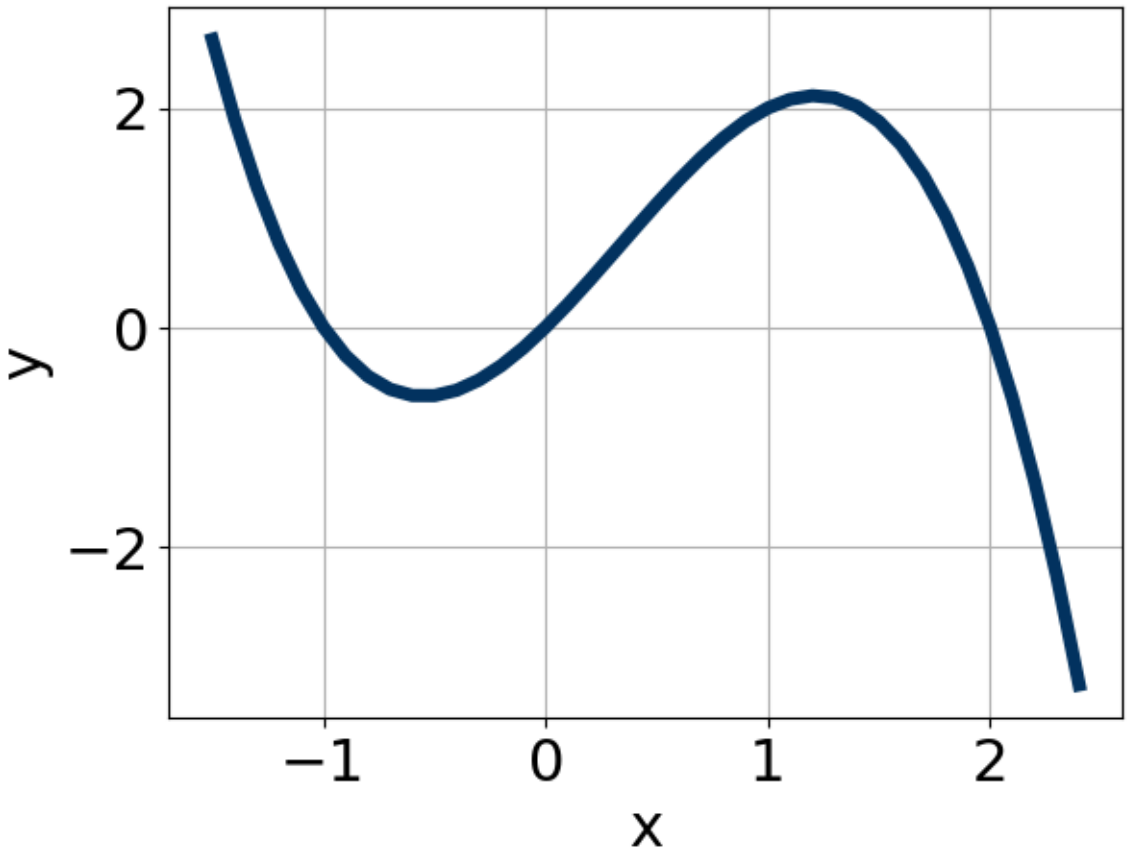


List zeros from smallest to largest. Use 8 *and* 9 *as exponents. The leading coefficient is either* 1 *or* −1.

$f(x) = \boxed{1}(x - \boxed{0})^{\boxed{9}}(x - \boxed{1})^{\boxed{9}}(x - \boxed{2})^{\boxed{9}}$

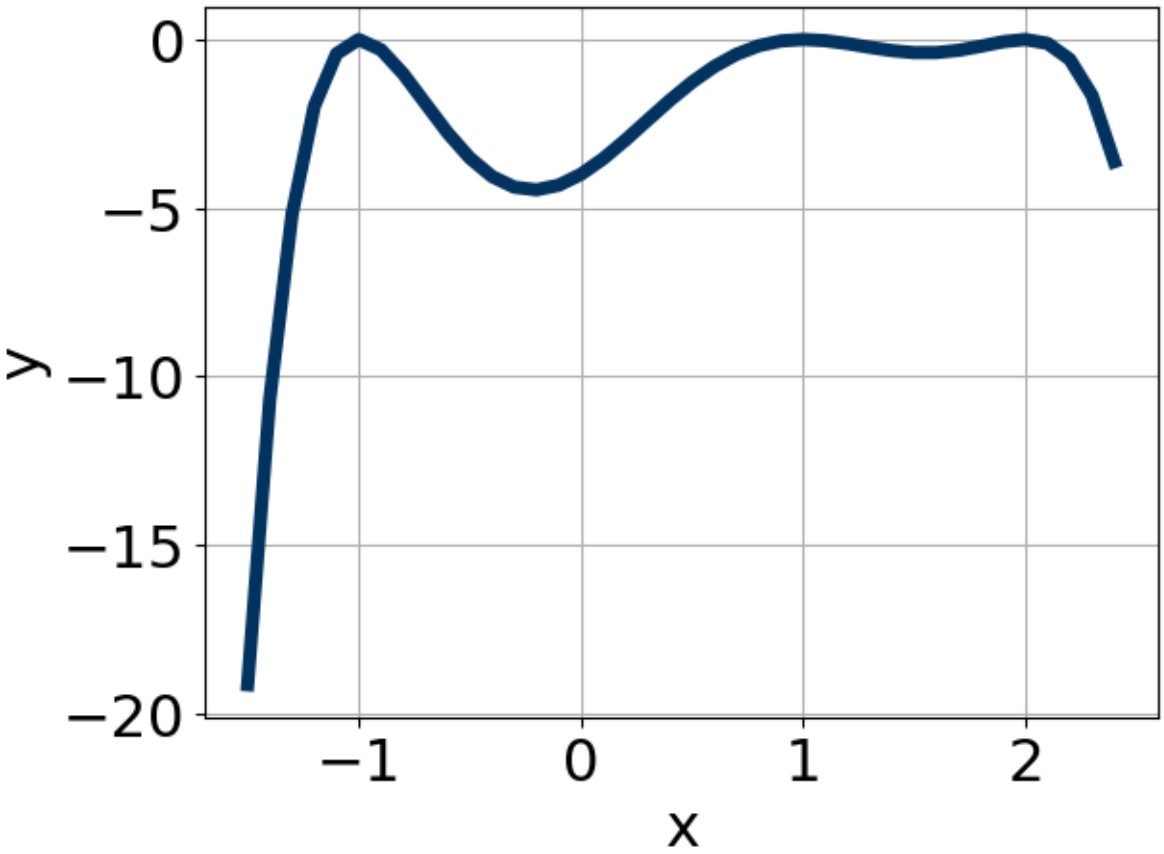
Question 2 *Write an equation of the function graphed below.*



List zeros from smallest to largest. Use 4 *and* 5 *as exponents. The leading coefficient is either* 1 *or* −1.

$f(x) = \boxed{-1}(x - \boxed{-1})^{\boxed{5}}(x - \boxed{0})^{\boxed{5}}(x - \boxed{2})^{\boxed{5}}$

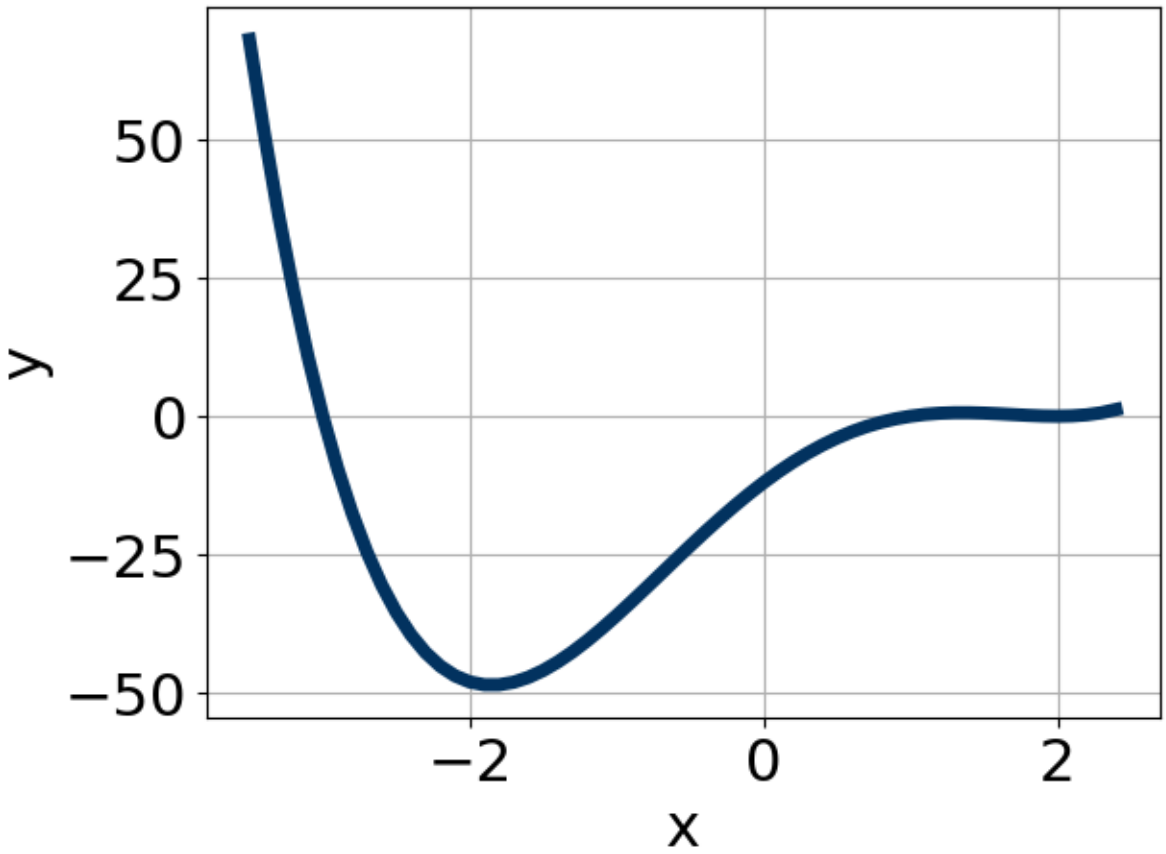
Question 3 *Write an equation of the function graphed below.*



List zeros from smallest to largest. Use 8 *and* 9 *as exponents. The leading coefficient is either* 1 *or* −1.

$f(x) = \boxed{-1}(x - \boxed{-1})^{\boxed{8}}(x - \boxed{1})^{\boxed{8}}(x - \boxed{2})^{\boxed{8}}$

Question 4 *Write an equation of the function graphed below.*



List zeros from smallest to largest. Use 8 *and* 9 *as exponents. The leading coefficient is either* 1 *or* −1.

$f(x) = \boxed{1}(x - \boxed{-3})^{\boxed{9}}(x - \boxed{1})^{\boxed{9}}(x - \boxed{2})^{\boxed{8}}$