Objective 2 - Graph Polynomials

Convert between a polynomial function and its graph.

Link to section in online textbook.

First, watch this video to learn what the different forms of a polynomial can tell you about its shape. 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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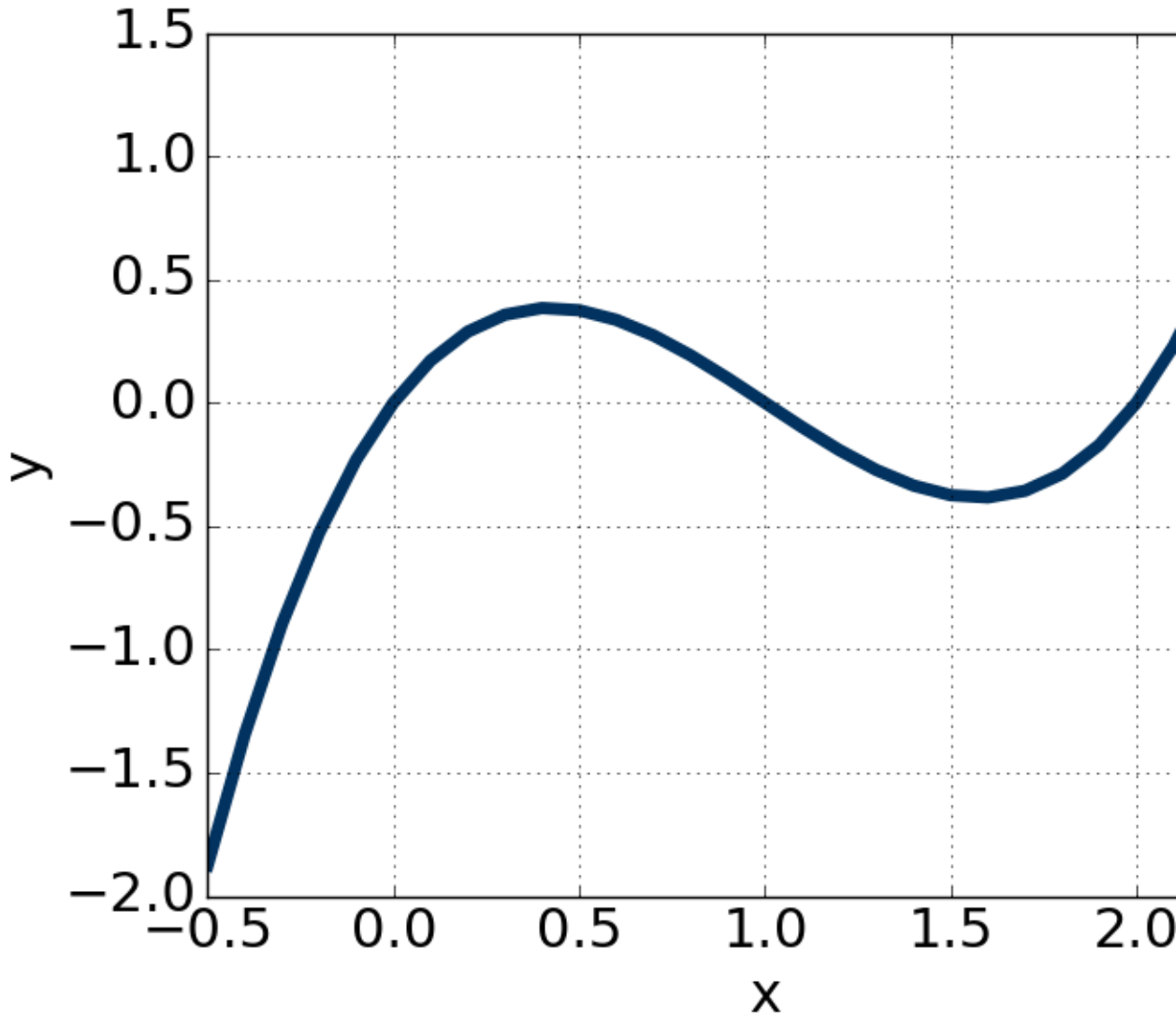
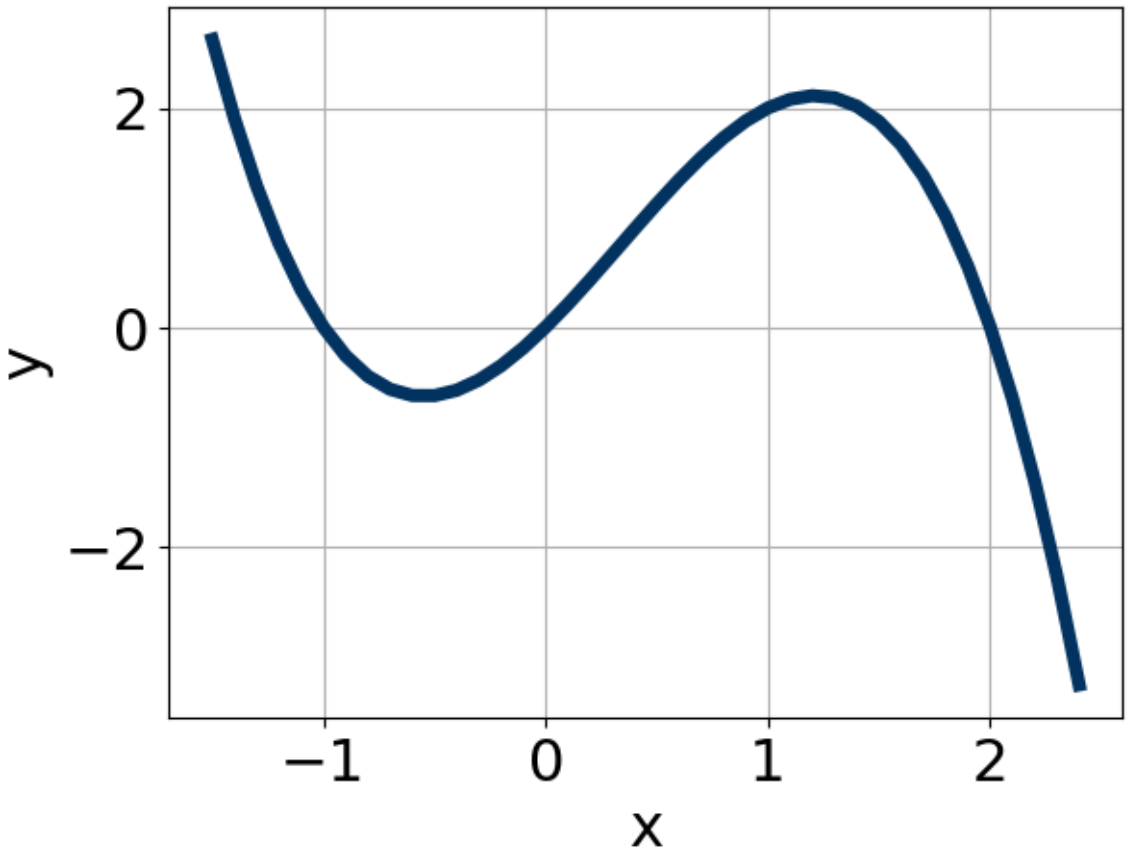


List zeros from smallest to largest. Use 8 *and* 7 *as exponents. The leading coefficient is either* 1 *or* −1.

$f(x) = \boxed{1}(x - \boxed{0})^{\boxed{7}}(x - \boxed{1})^{\boxed{7}}(x - \boxed{2})^{\boxed{7}}$

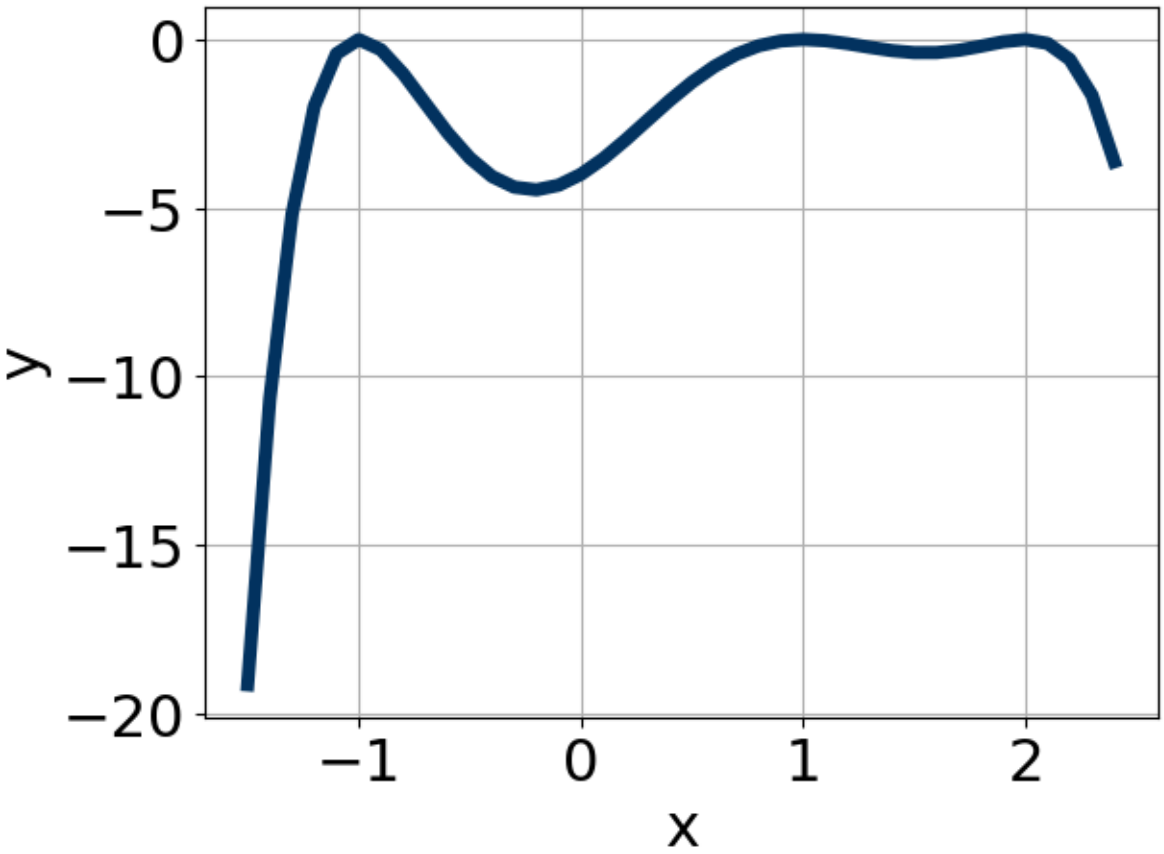
Question 2 *Write an equation of the function graphed below.*



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

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

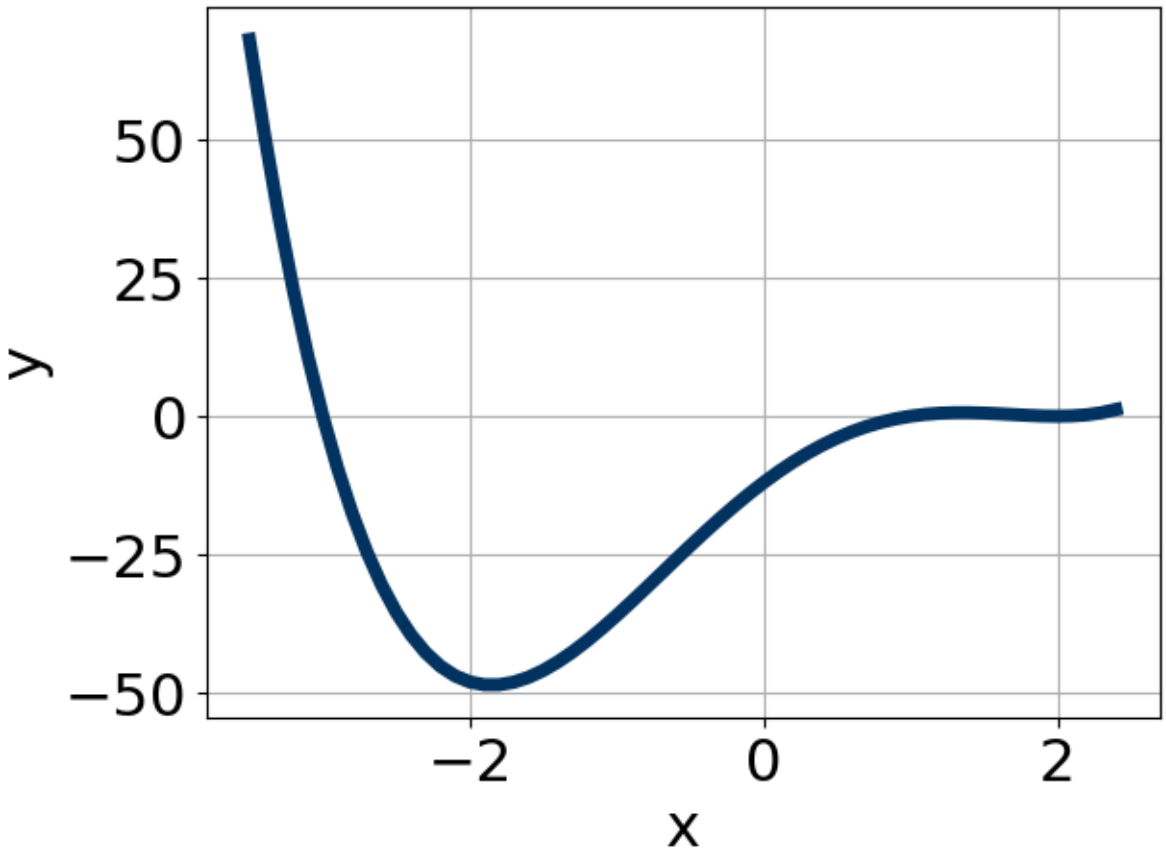
Question 3 *Write an equation of the function graphed below.*



List zeros from smallest to largest. Use 8 *and* 7 *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* 5 *as exponents. The leading coefficient is either* 1 *or* −1.

$f(x) = \boxed{1}(x - \boxed{-3})^{\boxed{5}}(x - \boxed{1})^{\boxed{5}}(x - \boxed{2})^{\boxed{8}}$