### Lesson 3 Practice Problems

1. Select **all** points where relative minimum values occur on this graph of a polynomial function.

* 
  1. Point
  2. Point
  3. Point
  4. Point
  5. Point
  6. Point
  7. Point
  8. Point

1. Add one term to the polynomial expression to make it into a 22nd degree polynomial.
2. Identify the degree, leading coefficient, and constant value of each of the following polynomials:
3. We want to make an open-top box by cutting out corners of a square piece of cardboard and folding up the sides. The cardboard is a 9 inch by 9 inch square. The volume in cubic inches of the open-top box is a function of the side length in inches of the square cutouts.
   1. Write an expression for .
   2. What is the volume of the box when ?
   3. What is a reasonable domain for in this context?

* (From Unit 2, Lesson 1.)

1. Consider the polynomial function given by . Evaluate the function at .

* (From Unit 2, Lesson 2.)

1. An open-top box is formed by cutting squares out of an 11 inch by 17 inch piece of paper and then folding up the sides. The volume in cubic inches of this type of open-top box is a function of the side length in inches of the square cutouts and can be given by . Rewrite this equation by expanding the polynomial.

* (From Unit 2, Lesson 2.)



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