Section 5.1 Polynomials
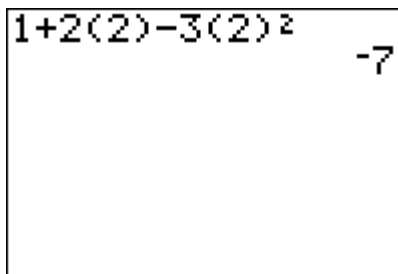## Section 5.3 Multiplying Polynomials

1. Evaluating polynomials.

Example 1: Evaluate the polynomial $1 + 2x - 3x^2$ for
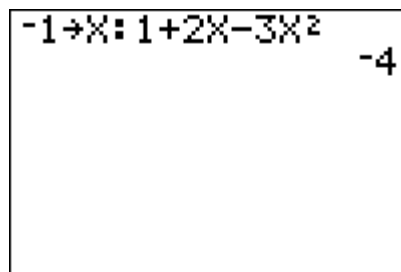   a. $x = 2$

        b. $x = -1$

Solution: a. Using Home Screen substitution.

```
1+2(2)-3(2)²
              -7
```

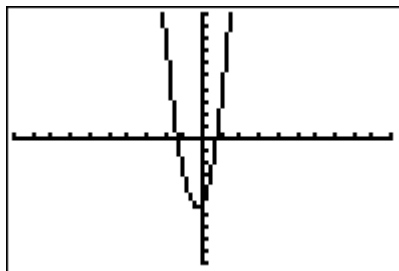   b. Using the STO key.

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-1→X:1+2X-3X²
              -4
```

2. The calculator may be used to visualize addition, subtraction, and multiplication of polynomials in one variable.

   Example 2: Confirm that the difference of the polynomials

   $$\left(2x^2 + 5x - 1\right) - \left(4 + 2x - 3x^2\right) = 5x^2 + 3x - 5$$

   Solution: Let Y1 = the left side of the equation, let Y2 = the right side of the equation, and graph the equations on the same screen to see if the graphs coincide.

   Students can also scroll through the table to see that the corresponding ordered pair solutions are the same.

INSTRUCTOR NOTE

   Although this is not "proof" that the answer is correct, it at least may provide students with an idea that their solution is reasonable.