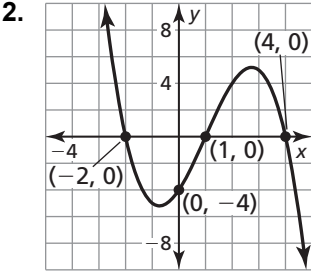
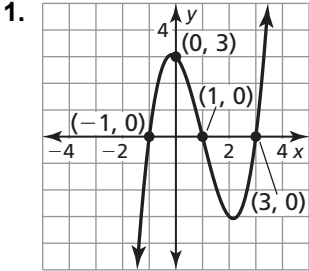


3.9

Practice A

In Exercises 1 and 2, write a cubic function whose graph is shown.



In Exercises 3–5, use finite differences to determine the degree of the polynomial function that fits the data. Then use technology to find the polynomial function.

3.

| | | | | | | | |
|--------|---|---|---|----|----|----|----|
| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| $f(x)$ | 1 | 3 | 7 | 14 | 25 | 41 | 63 |

4.

| | | | | | | |
|--------|----|----|---|----|----|----|
| x | -4 | -2 | 0 | 2 | 4 | 6 |
| $f(x)$ | -3 | 2 | 8 | 15 | 23 | 32 |

5.

| | | | | | | | |
|--------|----|----|---|-----|-----|-----|-----|
| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| $f(x)$ | 30 | 20 | 4 | -16 | -38 | -60 | -80 |

6. The data in the table show the cumulative number of customers during a 6-hour period.

| | | | | | | |
|--------|---|---|----|----|----|----|
| x | 1 | 2 | 3 | 4 | 5 | 6 |
| $f(x)$ | 2 | 7 | 13 | 20 | 28 | 37 |

- a. Find a polynomial model for the data.
- b. The store is open 24 hours each day. Does this model seem reasonable for the next 6-hour period? Explain.