

Answers

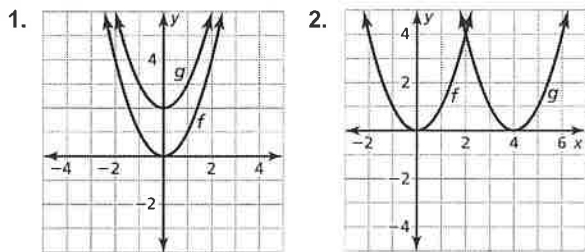
- b. $R(x) = -2x^2 + 370x$
- c. \$17,112
- d. 92 or 93
- e. $C(x) = 30x + 312$
- f. $P(x) = -2x^2 + 340x - 312 > 0$
- g. between 1 and 169, including 1 and 169
- h. \$14,138; 85 handbags

3.6 Puzzle Time

BAGELS

Chapter 4

4.1 Cumulative Practice



1. The graph of g is a vertical translation 2 units up of the graph of f .

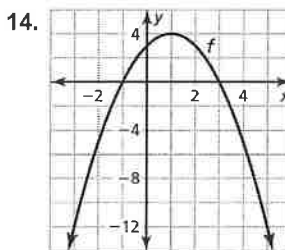
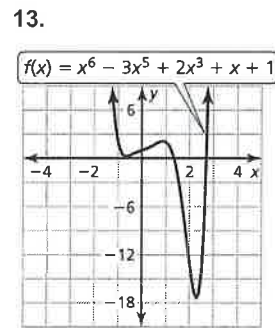
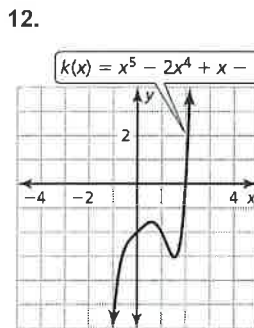
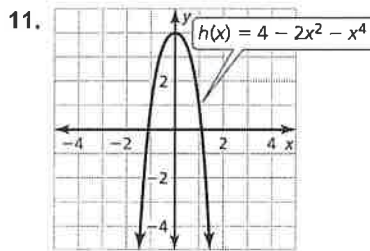
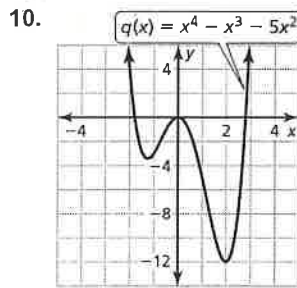
2. The graph of g is a horizontal translation 4 units right of the graph of f .

4.1 Prerequisite Skills Practice

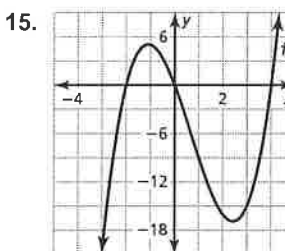
- 1. -20
- 2. 39

4.1 Extra Practice

- 1. not a polynomial function
- 2. polynomial function; $f(x) = 11x^2 + 12x - \sqrt{7}$, degree is 2, quadratic, leading coefficient is 11
- 3. polynomial function; $g(x) = 2x^4 - \sqrt{14}x^3 - \frac{1}{3}x^2 + 2x - \frac{5}{3}$, degree is 4, quartic, leading coefficient is 2
- 4. not a polynomial function
- 5. 1841
- 6. $-\frac{47}{9}$
- 7. $-\frac{5}{8}$
- 8. $g(x) \rightarrow -\infty$ as $x \rightarrow +\infty$ and $g(x) \rightarrow -\infty$ as $x \rightarrow -\infty$.
- 9. $h(x) \rightarrow +\infty$ as $x \rightarrow +\infty$ and $h(x) \rightarrow -\infty$ as $x \rightarrow -\infty$.



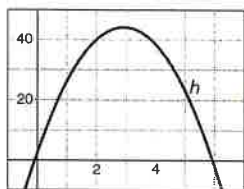
The degree is even and the leading coefficient is negative.



The degree is odd and the leading coefficient is positive.

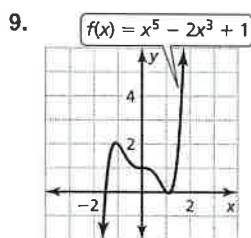
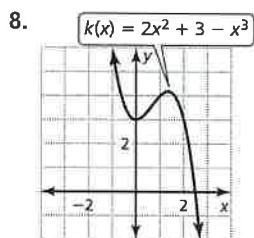
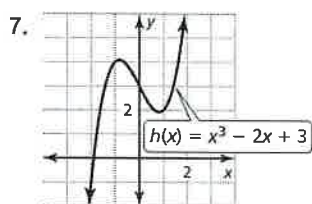
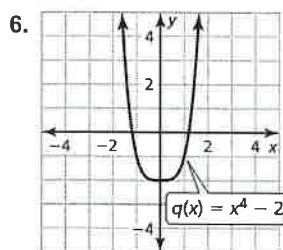
Answers

16. Sample answer: $-2 \leq x \leq 8$; $-5 \leq y \leq 50$



4.1 Reteach

1. -2 2. 6848 3. 15,651
4. $g(x) \rightarrow +\infty$ as $x \rightarrow +\infty$ and $g(x) \rightarrow +\infty$ as $x \rightarrow -\infty$.
5. $h(x) \rightarrow -\infty$ as $x \rightarrow +\infty$ and $h(x) \rightarrow +\infty$ as $x \rightarrow -\infty$.



4.1 Enrichment and Extension

1. $y \approx 1.17x^4 - 14.33x^3 + 60.83x^2 - 102.67x + 56$
2. $y \approx 0.12x^4 - 2.89x^3 + 23.51x^2 - 76.96x + 84$
3. $y \approx -0.29x^4 + 1.07x^3 + 1.96x^2 - 5.93x - 0.60$
4. $y \approx 1.39 \times 10^{-4}x^4 - 0.03x^3 + 2.78x^2 - 88.57x + 969.47$

4.1 Puzzle Time

COBWEBS

4.2 Cumulative Practice

1. $y = \frac{x^2}{4}$
2. $y = \frac{x^2}{44}$

4.2 Prerequisite Skills Practice

1. $-3z^2 - 2z$
2. $-2m - 4p$

4.2 Extra Practice

1. $8x^7 + 15x^6 - 2x^5 + x^3 - 6x + 2$
2. $14x^4 - 7x^3 - 4x + 5$
3. $-3x^5 + 3x^4 - 8x^2 + 10x + 9$
4. $9x^4 + 5x^3 - 6x^2 - 7x + 11$
5. $x^4 - 10x^3 + 13x^2 + 48x + 12$
6. $-10x^4 - 19x^3 + 7x^2 + 14x - 4$
7. $4x^4 - 11x^3 + 20x^2 - 18x + 12$
8. $3x^6 - 6x^5 + x^4 + 3x^3 - 40x^2 - 25x$
9. The exponents were multiplied instead of added;
 $4x^2(3x^4 - 2x^3 + 7) = 12x^6 - 8x^5 + 28x^2$
10. $6x^3 - 14x^2 - 14x + 6$
11. $8x^3 - 26x^2 - 67x - 15$
12. $-16x^3 + 12x^2 + 28x - 15$
13. $8x^3 - 30x^2 + 13x + 30$
14. $9x^2 - 25$ 15. $36t^2 + 84t + 49$
16. $p^2q^2 + 4pq + 4$
17. a. Sample answer: $(3x - 1)(x + 6)^2$
b. $3x^3 + 35x^2 + 96x - 36$

4.2 Reteach

1. $4x^2 + 7x - 9$
2. $7x^5 + 5x^4 + 3x^2 - 3x - 5$
3. $-4x^3 + 4x^2 - 4x + 2$
4. $7x^5 - 6x^4 + 13x^3 - 3x^2 + 12x + 8$
5. $-24x^3 + 25x^2 + 9x + 2$
6. $4x^3 - 19x^2 - x + 1$
7. $-3x^3 - 20x^2 - 21x - 54$
8. $x^2 - 64$ 9. $4p^2 - 12p + 9$
10. $y^3 + 12y^2 + 48y + 64$