6.3 Practice C

Polynomials

Find the degree and number of terms of each polynomial.

1. 5t5 + 60 + 3t3 2. 9p + 31p9 + 6p2 − 42 3. −50 + 4r − r3 + r2 − 4r5

Simplify and write each polynomial in standard form. Then, give  
the leading coefficient.

4. 4g3 + 8g − 4g3 + 2g2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. 13 − 5h3 + h2 − h \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. 2( 3x + 4) − 4x + 8x2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Classify each polynomial according to its degree and number of terms.

7. 6t3 + 54t4 − 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. 14 • 3w2 + w \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. 4(  4s2 − s ) − 11 + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evaluate each polynomial for the given value.

10. 4m − 4 − 4m3 for m = −2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. 12y7 − 6y2 − 8y3 − y for y = −1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. −3a + a3 − a2 for a = 3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. A certain company’s profit in dollars can be modeled with the polynomial  
−x2 + 100x − 200 where x is the number of items produced and sold.

a. What is the profit if they produce and sell 10 of their products? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. What is the profit if they produce and sell 100 of their products? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. Evaluate the company’s profit polynomial for x = 0. What does this

number represent?

6.4 Practice C

Adding and Subtracting Polynomials

Add or subtract.

1. −h6 + 4h5 − 3h4 + 2h5 − 9h6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. 6qw4 + 9qw3 − 13qw4 + 14wq3 − 7w4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Add.

3. − 2m + 1 4. 8yx2 − x + 6y 5. 7k3 + 4zk2 + 9zk

+ 6m2 + m − 2 + 2yx2 + 11x + 3y + 5zk3 − 10zk2 − 8zk

6. (−cb2 + 2b − 14c) + (3cb2 + 3c − 3b) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. (4a4 − 9a2 + 4a3) + (a3 − 11a2 − 4a5) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subtract.

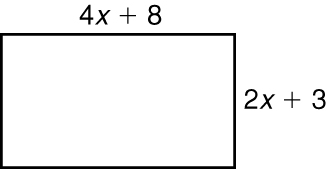
8. 13s2 + 2sx + 8x 9. 8r5 − 11ur4 − 7 10. −x4 + 5ax2 − x + a

− (−2s2 − 3sx + x) − (13r5 + 2r4 − 12) − (−2x4 − 5ax2 − x + b)

11. (−3p + pm − m2) − (2m2 − 13p − 5pm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. (ag3 − g2 + 2ag3) − (3a3g + g2 − 4ag) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Vince is going to frame the rectangular picture with dimensions shown.  
The frame will be x + 1 inches wide. Find the perimeter of the frame.



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Mr. Watford owns two car dealerships. His profit from the first can be  
modeled with the polynomial c3 − c2 + 2c − 100, where c is the number  
of cars he sells. Mr. Watford’s profit from his second dealership can be  
modeled with the polynomial c2 − 4c − 300.

a. Write a polynomial to represent the difference of the profit at his first  
dealership and the profit at his second dealership.

b. What is the total amount of profit Mr. Watford earns from both dealerships?