

# 5.1

## Addition of Polynomials

### • Example 1

Add  $4a^2 - 7a + 5$  and  $3a^2 + 3a - 4$ .

In succession,

$$\begin{aligned}
 &(4a^2 - 7a + 5) + (3a^2 + 3a - 4) \\
 &= 4a^2 - 7a + 5 + 3a^2 + 3a - 4 = 7a^2 - 4a + 1
 \end{aligned}$$

### • • • CHECK YOURSELF 1

Add  $5y^2 - 3y + 7$  and  $3y^2 - 5y - 7$ .

### • Example 2

(a) Subtract  $4x^2 - 3x^3 + 5x$  from  $8x^3 - 7x + 2x^2$ .

In succession,

$$\begin{aligned}
 &(8x^3 + 2x^2 - 7x) - (-3x^3 + 4x^2 + 5x) \\
 &= 8x^3 + 2x^2 - 7x + 3x^3 - 4x^2 - 5x \\
 &= 11x^3 - 2x^2 - 12x
 \end{aligned}$$

(b) Subtract  $8x - 5$  from  $-5x + 3x^2$ .

$$\begin{aligned}
 &(3x^2 - 5x) - (8x - 5) \\
 &= 3x^2 - 5x - 8x + 5 \\
 &= 3x^2 - 13x + 5
 \end{aligned}$$

### • • • CHECK YOURSELF 2

a. Subtract  $7x - 3x^2 + 5$  from  $5 - 3x + 4x^2$ .

b. Subtract  $3a - 2$  from  $5a + 4a^2$ .

### • • • CHECK YOURSELF ANSWERS

1.  $8y^2 - 8y$ .    2. (a)  $7x^2 - 10x$ ; (b)  $4a^2 + 2a + 2$ .

# 5.1 Exercises

Name \_\_\_\_\_

Section \_\_\_\_\_

Date \_\_\_\_\_

## A N S W E R S

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_

Add.

1.  $6a - 5$  and  $3a + 9$
2.  $9x + 3$  and  $3x - 4$
3.  $8b^2 - 11b$  and  $5b^2 - 7b$
4.  $2m^2 + 3m$  and  $6m^2 - 8m$
5.  $3x^2 - 2x$  and  $-5x^2 + 2x$
6.  $3p^2 + 5p$  and  $-7p^2 - 5p$
7.  $2x^2 + 5x - 3$  and  $3x^2 - 7x + 4$
8.  $4d^2 - 8d + 7$  and  $5d^2 - 6d - 9$
9.  $2b^2 + 8$  and  $5b + 8$
10.  $4x - 3$  and  $3x^2 - 9x$
11.  $8y^3 - 5y^2$  and  $5y^2 - 2y$
12.  $9x^4 - 2x^2$  and  $2x^2 + 3$
13.  $2a^2 - 4a^3$  and  $3a^3 + 2a^2$
14.  $9m^3 - 2m$  and  $-6m - 4m^3$
15.  $4x^2 - 2 + 7x$  and  $5 - 8x - 6x^2$
16.  $5b^3 - 8b + 2b^2$  and  $3b^2 - 7b^3 + 5b$

Subtract.

17.  $x + 4$  from  $2x - 3$

18.  $x - 2$  from  $3x + 5$

19.  $3m^2 - 2m$  from  $4m^2 - 5m$

20.  $9a^2 - 5a$  from  $11a^2 - 10a$

21.  $6y^2 + 5y$  from  $4y^2 + 5y$

22.  $9n^2 - 4n$  from  $7n^2 - 4n$

23.  $x^2 - 4x - 3$  from  $3x^2 - 5x - 2$

24.  $3x^2 - 2x + 4$  from  $5x^2 - 8x - 3$

25.  $3a + 7$  from  $8a^2 - 9a$

26.  $3x^3 + x^2$  from  $4x^3 - 5x$

27.  $4b^2 - 3b$  from  $5b - 2b^2$

28.  $7y - 3y^2$  from  $3y^2 - 2y$

29.  $x^2 - 5 - 8x$  from  
 $3x^2 - 8x + 7$

30.  $4x - 2x^2 + 4x^3$  from  
 $4x^3 + x - 3x^2$

- 17. \_\_\_\_\_
- 18. \_\_\_\_\_
- 19. \_\_\_\_\_
- 20. \_\_\_\_\_
- 21. \_\_\_\_\_
- 22. \_\_\_\_\_
- 23. \_\_\_\_\_
- 24. \_\_\_\_\_
- 25. \_\_\_\_\_
- 26. \_\_\_\_\_
- 27. \_\_\_\_\_
- 28. \_\_\_\_\_
- 29. \_\_\_\_\_
- 30. \_\_\_\_\_