

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) $4a^2 + 2a + 2$.

6.1 Exercises

Name _____

Section _____

Date _____

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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
 $4x^3 + x - 3x^2$

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