

Multiplying a Monomial by a Binomial (A)

Simplify each expression.

1. $-3n^3(-8n^3 - 3n^2)$

2. $9a^5(-8a^4 + 2a^3)$

3. $9h^4(-9h - 9)$

4. $4b(9b^5 + 7b^4)$

5. $-8v^3(3v^5 + 3v^4)$

6. $-2a^2(-8a^2 + 9a)$

7. $7a^3(-3a^4 + 6a^3)$

8. $-6p(2p^3 - 4p^2)$

9. $-2p^3(-4p^4 - 7p^3)$

10. $3x^3(-2x^5 + 9x^4)$

Multiplying a Monomial by a Binomial (A) Answers

Simplify each expression.

$$\begin{aligned} 1. & -3n^3(-8n^3 - 3n^2) \\ & = 24n^6 + 9n^5 \end{aligned}$$

$$\begin{aligned} 2. & 9a^5(-8a^4 + 2a^3) \\ & = -72a^9 + 18a^8 \end{aligned}$$

$$\begin{aligned} 3. & 9h^4(-9h - 9) \\ & = -81h^5 - 81h^4 \end{aligned}$$

$$\begin{aligned} 4. & 4b(9b^5 + 7b^4) \\ & = 36b^6 + 28b^5 \end{aligned}$$

$$\begin{aligned} 5. & -8v^3(3v^5 + 3v^4) \\ & = -24v^8 - 24v^7 \end{aligned}$$

$$\begin{aligned} 6. & -2a^2(-8a^2 + 9a) \\ & = 16a^4 - 18a^3 \end{aligned}$$

$$\begin{aligned} 7. & 7a^3(-3a^4 + 6a^3) \\ & = -21a^7 + 42a^6 \end{aligned}$$

$$\begin{aligned} 8. & -6p(2p^3 - 4p^2) \\ & = -12p^4 + 24p^3 \end{aligned}$$

$$\begin{aligned} 9. & -2p^3(-4p^4 - 7p^3) \\ & = 8p^7 + 14p^6 \end{aligned}$$

$$\begin{aligned} 10. & 3x^3(-2x^5 + 9x^4) \\ & = -6x^8 + 27x^7 \end{aligned}$$

Multiplying a Monomial by a Binomial (B)

Simplify each expression.

1. $6y^4(-8y^4 - 6y^3)$

2. $-3a(-a - 1)$

3. $-8d^4(8d^2 + 4d)$

4. $-8x(8x^5 - 6x^4)$

5. $-5a^4(-3a^2 + 9a)$

6. $8s^2(-8s - 4)$

7. $4s^2(-6s^4 - 3s^3)$

8. $5s(s^3 - 8s^2)$

9. $-d^5(8d^2 + 8d)$

10. $-4s^5(-2s^4 - s^3)$

Multiplying a Monomial by a Binomial (B) Answers

Simplify each expression.

$$\begin{aligned} 1. & 6y^4(-8y^4 - 6y^3) \\ & = -48y^8 - 36y^7 \end{aligned}$$

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

$$\begin{aligned} 3. & -8d^4(8d^2 + 4d) \\ & = -64d^6 - 32d^5 \end{aligned}$$

$$\begin{aligned} 4. & -8x(8x^5 - 6x^4) \\ & = -64x^6 + 48x^5 \end{aligned}$$

$$\begin{aligned} 5. & -5a^4(-3a^2 + 9a) \\ & = 15a^6 - 45a^5 \end{aligned}$$

$$\begin{aligned} 6. & 8s^2(-8s - 4) \\ & = -64s^3 - 32s^2 \end{aligned}$$

$$\begin{aligned} 7. & 4s^2(-6s^4 - 3s^3) \\ & = -24s^6 - 12s^5 \end{aligned}$$

$$\begin{aligned} 8. & 5s(s^3 - 8s^2) \\ & = 5s^4 - 40s^3 \end{aligned}$$

$$\begin{aligned} 9. & -d^5(8d^2 + 8d) \\ & = -8d^7 - 8d^6 \end{aligned}$$

$$\begin{aligned} 10. & -4s^5(-2s^4 - s^3) \\ & = 8s^9 + 4s^8 \end{aligned}$$

Multiplying a Monomial by a Binomial (C)

Simplify each expression.

1. $-5d^5(-8d + 7)$

2. $-5b^4(-4b^3 - 5b^2)$

3. $6c(-9c + 1)$

4. $7a^4(-9a^2 - 2a)$

5. $3z^5(-6z^4 - z^3)$

6. $-7z^4(3z^3 + 4z^2)$

7. $3c(8c^4 - c^3)$

8. $-6f^3(-7f^2 + 2f)$

9. $7c^5(-c^2 + 2c)$

10. $9x^2(-3x^4 + 7x^3)$

Multiplying a Monomial by a Binomial (C) Answers

Simplify each expression.

$$\begin{aligned} 1. & -5d^5(-8d + 7) \\ & = 40d^6 - 35d^5 \end{aligned}$$

$$\begin{aligned} 2. & -5b^4(-4b^3 - 5b^2) \\ & = 20b^7 + 25b^6 \end{aligned}$$

$$\begin{aligned} 3. & 6c(-9c + 1) \\ & = -54c^2 + 6c \end{aligned}$$

$$\begin{aligned} 4. & 7a^4(-9a^2 - 2a) \\ & = -63a^6 - 14a^5 \end{aligned}$$

$$\begin{aligned} 5. & 3z^5(-6z^4 - z^3) \\ & = -18z^9 - 3z^8 \end{aligned}$$

$$\begin{aligned} 6. & -7z^4(3z^3 + 4z^2) \\ & = -21z^7 - 28z^6 \end{aligned}$$

$$\begin{aligned} 7. & 3c(8c^4 - c^3) \\ & = 24c^5 - 3c^4 \end{aligned}$$

$$\begin{aligned} 8. & -6f^3(-7f^2 + 2f) \\ & = 42f^5 - 12f^4 \end{aligned}$$

$$\begin{aligned} 9. & 7c^5(-c^2 + 2c) \\ & = -7c^7 + 14c^6 \end{aligned}$$

$$\begin{aligned} 10. & 9x^2(-3x^4 + 7x^3) \\ & = -27x^6 + 63x^5 \end{aligned}$$

Multiplying a Monomial by a Binomial (D)

Simplify each expression.

1. $-4w^3(w - 4)$

2. $-6a^2(7a^5 - 3a^4)$

3. $4k^3(-4k^3 + 6k^2)$

4. $9g^5(-8g^5 - 7g^4)$

5. $-7h(2h - 5)$

6. $2w(7w^2 + 4w)$

7. $-5r(2r^5 + 9r^4)$

8. $-7m(2m^4 + 2m^3)$

9. $-n^4(-2n^2 - 5n)$

10. $-k^3(-2k^4 - 4k^3)$

Multiplying a Monomial by a Binomial (D) Answers

Simplify each expression.

$$\begin{aligned} 1. & -4w^3(w - 4) \\ & = -4w^4 + 16w^3 \end{aligned}$$

$$\begin{aligned} 2. & -6a^2(7a^5 - 3a^4) \\ & = -42a^7 + 18a^6 \end{aligned}$$

$$\begin{aligned} 3. & 4k^3(-4k^3 + 6k^2) \\ & = -16k^6 + 24k^5 \end{aligned}$$

$$\begin{aligned} 4. & 9g^5(-8g^5 - 7g^4) \\ & = -72g^{10} - 63g^9 \end{aligned}$$

$$\begin{aligned} 5. & -7h(2h - 5) \\ & = -14h^2 + 35h \end{aligned}$$

$$\begin{aligned} 6. & 2w(7w^2 + 4w) \\ & = 14w^3 + 8w^2 \end{aligned}$$

$$\begin{aligned} 7. & -5r(2r^5 + 9r^4) \\ & = -10r^6 - 45r^5 \end{aligned}$$

$$\begin{aligned} 8. & -7m(2m^4 + 2m^3) \\ & = -14m^5 - 14m^4 \end{aligned}$$

$$\begin{aligned} 9. & -n^4(-2n^2 - 5n) \\ & = 2n^6 + 5n^5 \end{aligned}$$

$$\begin{aligned} 10. & -k^3(-2k^4 - 4k^3) \\ & = 2k^7 + 4k^6 \end{aligned}$$

Multiplying a Monomial by a Binomial (E)

Simplify each expression.

1. $-5s^5(-3s^4 + 6s^3)$

2. $3f^3(6f^5 + 3f^4)$

3. $7m^4(7m^4 - 7m^3)$

4. $-6w(5w + 9)$

5. $5a^4(-9a^3 - 5a^2)$

6. $4f^3(2f^3 - 8f^2)$

7. $6f^4(2f - 6)$

8. $-7y^3(y^3 - 8y^2)$

9. $-7a(6a^2 - 8a)$

10. $4q^5(-8q^4 - 9q^3)$

Multiplying a Monomial by a Binomial (E) Answers

Simplify each expression.

$$\begin{aligned} 1. & -5s^5(-3s^4 + 6s^3) \\ & = 15s^9 - 30s^8 \end{aligned}$$

$$\begin{aligned} 2. & 3f^3(6f^5 + 3f^4) \\ & = 18f^8 + 9f^7 \end{aligned}$$

$$\begin{aligned} 3. & 7m^4(7m^4 - 7m^3) \\ & = 49m^8 - 49m^7 \end{aligned}$$

$$\begin{aligned} 4. & -6w(5w + 9) \\ & = -30w^2 - 54w \end{aligned}$$

$$\begin{aligned} 5. & 5a^4(-9a^3 - 5a^2) \\ & = -45a^7 - 25a^6 \end{aligned}$$

$$\begin{aligned} 6. & 4f^3(2f^3 - 8f^2) \\ & = 8f^6 - 32f^5 \end{aligned}$$

$$\begin{aligned} 7. & 6f^4(2f - 6) \\ & = 12f^5 - 36f^4 \end{aligned}$$

$$\begin{aligned} 8. & -7y^3(y^3 - 8y^2) \\ & = -7y^6 + 56y^5 \end{aligned}$$

$$\begin{aligned} 9. & -7a(6a^2 - 8a) \\ & = -42a^3 + 56a^2 \end{aligned}$$

$$\begin{aligned} 10. & 4q^5(-8q^4 - 9q^3) \\ & = -32q^9 - 36q^8 \end{aligned}$$

Multiplying a Monomial by a Binomial (F)

Simplify each expression.

1. $-9n^4(-2n + 1)$

2. $5a^4(8a^4 + 2a^3)$

3. $-4a^5(3a^4 + 8a^3)$

4. $5y^3(6y^3 + 8y^2)$

5. $-3b(-6b^5 + 8b^4)$

6. $2q(-8q^5 + 9q^4)$

7. $-7s^3(-2s^5 - 2s^4)$

8. $-5r(-4r - 2)$

9. $-9x^5(-4x^3 + 8x^2)$

10. $2v^3(-8v^4 + 9v^3)$

Multiplying a Monomial by a Binomial (F) Answers

Simplify each expression.

$$\begin{aligned} 1. & -9n^4(-2n + 1) \\ & = 18n^5 - 9n^4 \end{aligned}$$

$$\begin{aligned} 2. & 5a^4(8a^4 + 2a^3) \\ & = 40a^8 + 10a^7 \end{aligned}$$

$$\begin{aligned} 3. & -4a^5(3a^4 + 8a^3) \\ & = -12a^9 - 32a^8 \end{aligned}$$

$$\begin{aligned} 4. & 5y^3(6y^3 + 8y^2) \\ & = 30y^6 + 40y^5 \end{aligned}$$

$$\begin{aligned} 5. & -3b(-6b^5 + 8b^4) \\ & = 18b^6 - 24b^5 \end{aligned}$$

$$\begin{aligned} 6. & 2q(-8q^5 + 9q^4) \\ & = -16q^6 + 18q^5 \end{aligned}$$

$$\begin{aligned} 7. & -7s^3(-2s^5 - 2s^4) \\ & = 14s^8 + 14s^7 \end{aligned}$$

$$\begin{aligned} 8. & -5r(-4r - 2) \\ & = 20r^2 + 10r \end{aligned}$$

$$\begin{aligned} 9. & -9x^5(-4x^3 + 8x^2) \\ & = 36x^8 - 72x^7 \end{aligned}$$

$$\begin{aligned} 10. & 2v^3(-8v^4 + 9v^3) \\ & = -16v^7 + 18v^6 \end{aligned}$$

Multiplying a Monomial by a Binomial (G)

Simplify each expression.

1. $-6w^5(7w^4 - 5w^3)$

2. $8r^4(8r^5 + 3r^4)$

3. $-2s^3(-6s^5 - 8s^4)$

4. $-2v^4(-6v^4 + 7v^3)$

5. $2g(2g^5 + 7g^4)$

6. $-6a^3(a^3 + 4a^2)$

7. $3y^5(9y^2 - 8y)$

8. $-k^4(-9k^4 + k^3)$

9. $-5x^3(-8x + 5)$

10. $6g^3(-9g^4 - g^3)$

Multiplying a Monomial by a Binomial (G) Answers

Simplify each expression.

$$\begin{aligned} 1. & -6w^5(7w^4 - 5w^3) \\ & = -42w^9 + 30w^8 \end{aligned}$$

$$\begin{aligned} 2. & 8r^4(8r^5 + 3r^4) \\ & = 64r^9 + 24r^8 \end{aligned}$$

$$\begin{aligned} 3. & -2s^3(-6s^5 - 8s^4) \\ & = 12s^8 + 16s^7 \end{aligned}$$

$$\begin{aligned} 4. & -2v^4(-6v^4 + 7v^3) \\ & = 12v^8 - 14v^7 \end{aligned}$$

$$\begin{aligned} 5. & 2g(2g^5 + 7g^4) \\ & = 4g^6 + 14g^5 \end{aligned}$$

$$\begin{aligned} 6. & -6a^3(a^3 + 4a^2) \\ & = -6a^6 - 24a^5 \end{aligned}$$

$$\begin{aligned} 7. & 3y^5(9y^2 - 8y) \\ & = 27y^7 - 24y^6 \end{aligned}$$

$$\begin{aligned} 8. & -k^4(-9k^4 + k^3) \\ & = 9k^8 - k^7 \end{aligned}$$

$$\begin{aligned} 9. & -5x^3(-8x + 5) \\ & = 40x^4 - 25x^3 \end{aligned}$$

$$\begin{aligned} 10. & 6g^3(-9g^4 - g^3) \\ & = -54g^7 - 6g^6 \end{aligned}$$

Multiplying a Monomial by a Binomial (H)

Simplify each expression.

1. $4m^5(-9m^4 - 3m^3)$

2. $2a(-5a - 2)$

3. $7t^5(7t^2 - t)$

4. $8x^3(4x^2 - 6x)$

5. $-5f(-9f + 2)$

6. $5c^3(-3c^5 + 8c^4)$

7. $-2q^3(q^5 - 7q^4)$

8. $-9w^5(-4w^3 - 4w^2)$

9. $3q(7q + 2)$

10. $5x^2(-9x^3 - x^2)$

Multiplying a Monomial by a Binomial (H) Answers

Simplify each expression.

$$\begin{aligned} 1. \quad & 4m^5(-9m^4 - 3m^3) \\ & = -36m^9 - 12m^8 \end{aligned}$$

$$\begin{aligned} 2. \quad & 2a(-5a - 2) \\ & = -10a^2 - 4a \end{aligned}$$

$$\begin{aligned} 3. \quad & 7t^5(7t^2 - t) \\ & = 49t^7 - 7t^6 \end{aligned}$$

$$\begin{aligned} 4. \quad & 8x^3(4x^2 - 6x) \\ & = 32x^5 - 48x^4 \end{aligned}$$

$$\begin{aligned} 5. \quad & -5f(-9f + 2) \\ & = 45f^2 - 10f \end{aligned}$$

$$\begin{aligned} 6. \quad & 5c^3(-3c^5 + 8c^4) \\ & = -15c^8 + 40c^7 \end{aligned}$$

$$\begin{aligned} 7. \quad & -2q^3(q^5 - 7q^4) \\ & = -2q^8 + 14q^7 \end{aligned}$$

$$\begin{aligned} 8. \quad & -9w^5(-4w^3 - 4w^2) \\ & = 36w^8 + 36w^7 \end{aligned}$$

$$\begin{aligned} 9. \quad & 3q(7q + 2) \\ & = 21q^2 + 6q \end{aligned}$$

$$\begin{aligned} 10. \quad & 5x^2(-9x^3 - x^2) \\ & = -45x^5 - 5x^4 \end{aligned}$$

Multiplying a Monomial by a Binomial (I)

Simplify each expression.

1. $6w(6w + 2)$

2. $8m^5(4m + 1)$

3. $c^5(-4c - 1)$

4. $6y^2(-3y^3 + y^2)$

5. $-5s^4(-2s^5 + 9s^4)$

6. $-7r^3(3r^4 + 9r^3)$

7. $r^2(6r - 5)$

8. $y^4(7y^3 - 6y^2)$

9. $6f^2(-7f - 4)$

10. $-7w(w^4 + 9w^3)$

Multiplying a Monomial by a Binomial (I) Answers

Simplify each expression.

$$\begin{aligned} 1. & 6w(6w + 2) \\ & = 36w^2 + 12w \end{aligned}$$

$$\begin{aligned} 2. & 8m^5(4m + 1) \\ & = 32m^6 + 8m^5 \end{aligned}$$

$$\begin{aligned} 3. & c^5(-4c - 1) \\ & = -4c^6 - c^5 \end{aligned}$$

$$\begin{aligned} 4. & 6y^2(-3y^3 + y^2) \\ & = -18y^5 + 6y^4 \end{aligned}$$

$$\begin{aligned} 5. & -5s^4(-2s^5 + 9s^4) \\ & = 10s^9 - 45s^8 \end{aligned}$$

$$\begin{aligned} 6. & -7r^3(3r^4 + 9r^3) \\ & = -21r^7 - 63r^6 \end{aligned}$$

$$\begin{aligned} 7. & r^2(6r - 5) \\ & = 6r^3 - 5r^2 \end{aligned}$$

$$\begin{aligned} 8. & y^4(7y^3 - 6y^2) \\ & = 7y^7 - 6y^6 \end{aligned}$$

$$\begin{aligned} 9. & 6f^2(-7f - 4) \\ & = -42f^3 - 24f^2 \end{aligned}$$

$$\begin{aligned} 10. & -7w(w^4 + 9w^3) \\ & = -7w^5 - 63w^4 \end{aligned}$$

Multiplying a Monomial by a Binomial (J)

Simplify each expression.

1. $-3f^2(5f + 4)$

2. $-7r^5(-4r^3 - r^2)$

3. $-3s^5(2s^5 - s^4)$

4. $-8a^2(-8a^3 + 8a^2)$

5. $-9k^5(-3k - 6)$

6. $b(4b^2 - 7b)$

7. $-7f^3(3f - 3)$

8. $-a^2(-5a - 3)$

9. $8y(y^3 + 3y^2)$

10. $2q^3(7q^4 + 8q^3)$

Multiplying a Monomial by a Binomial (J) Answers

Simplify each expression.

$$\begin{aligned} 1. & -3f^2(5f + 4) \\ & = -15f^3 - 12f^2 \end{aligned}$$

$$\begin{aligned} 2. & -7r^5(-4r^3 - r^2) \\ & = 28r^8 + 7r^7 \end{aligned}$$

$$\begin{aligned} 3. & -3s^5(2s^5 - s^4) \\ & = -6s^{10} + 3s^9 \end{aligned}$$

$$\begin{aligned} 4. & -8a^2(-8a^3 + 8a^2) \\ & = 64a^5 - 64a^4 \end{aligned}$$

$$\begin{aligned} 5. & -9k^5(-3k - 6) \\ & = 27k^6 + 54k^5 \end{aligned}$$

$$\begin{aligned} 6. & b(4b^2 - 7b) \\ & = 4b^3 - 7b^2 \end{aligned}$$

$$\begin{aligned} 7. & -7f^3(3f - 3) \\ & = -21f^4 + 21f^3 \end{aligned}$$

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

$$\begin{aligned} 9. & 8y(y^3 + 3y^2) \\ & = 8y^4 + 24y^3 \end{aligned}$$

$$\begin{aligned} 10. & 2q^3(7q^4 + 8q^3) \\ & = 14q^7 + 16q^6 \end{aligned}$$