

Multiplying Monomials and Polynomials (I)

Simplify each expression.

1. $(-8x^4 + 7x^3)(7x^4 - 8x^3 + 7x^2)$

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

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

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

5. $(3t^4 + t^3)(5t^5 + 2t^4)$

6. $(z - 1)(5z^2 + 8z)$

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

8. $(-6y^5 + 7y^4 - 5y^3)(8y^5 - 8y^4)$

9. $-9f^4(-4f^3 + 3f^2)$

10. $9f^3(3f^3 + 4f^2 + 9f)$

Multiplying Monomials and Polynomials (I) Answers

Simplify each expression.

$$\begin{aligned} 1. & (-8x^4 + 7x^3)(7x^4 - 8x^3 + 7x^2) \\ & = -56x^8 + 113x^7 - 112x^6 + 49x^5 \end{aligned}$$

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

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

$$\begin{aligned} 4. & (9m^3 - m^2 - 9m)(-7m^3 + 2m^2 + 2m) \\ & = -63m^6 + 25m^5 + 79m^4 - 20m^3 - 18m^2 \end{aligned}$$

$$\begin{aligned} 5. & (3t^4 + t^3)(5t^5 + 2t^4) \\ & = 15t^9 + 11t^8 + 2t^7 \end{aligned}$$

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

$$\begin{aligned} 7. & (k^4 + 4k^3 - 5k^2)(6k - 3) \\ & = 6k^5 + 21k^4 - 42k^3 + 15k^2 \end{aligned}$$

$$\begin{aligned} 8. & (-6y^5 + 7y^4 - 5y^3)(8y^5 - 8y^4) \\ & = -48y^{10} + 104y^9 - 96y^8 + 40y^7 \end{aligned}$$

$$\begin{aligned} 9. & -9f^4(-4f^3 + 3f^2) \\ & = 36f^7 - 27f^6 \end{aligned}$$

$$\begin{aligned} 10. & 9f^3(3f^3 + 4f^2 + 9f) \\ & = 27f^6 + 36f^5 + 81f^4 \end{aligned}$$