9-7-18 Examples:

1. $4c(5c^2 + c + 6)$
   $20c^3 + 4c^2 + 24c$

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

3. $(3h^2 - 8h - 1)(-7h^2)$
   $-21h^4 + 56h^3 + 7h^2$

4. $8y^6(3y^2 - 4y + 10)$
   $24y^8 - 32y^7 + 80y^6$

5. $-2hg^2(3hg^3 + 6g - 5)$
   $-6h^2g^5 - 12hg^3 + 10hg^2$

1

Multiply a monomial & a polynomial

warm-up: Simplify

1. $x^2 \cdot x^5 = x^7$

2. $3y \cdot 6y^2 = 18y^3$

3. $a^3 + 4a^3 = 5a^3$

4. $8c^7 - 2c^5 = 8c^7 - 2c^5$

5. $4(5x + 6) = 20x + 24$

6. $-8(1 + 2y) = -8 - 16y$

Multiplying a Monomial and a Polynomial:

To multiply a monomial and a polynomial use the distributive property

Ex) $a(b + c + d) = a \cdot b + a \cdot c + a \cdot d = ab + ac + ad$

＊variables with the <u>same base</u> → <u>ADD</u> exponents

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

$\boxed{-4x^3 + 8x^2 - 28xy}$

2)
$6x(3x^4 - 11x^2 + 3x - 2)$

$18x^5 - 66x^3 + 18x^2 - 12$

3)
$5x^2y^3z(13x^4y^3 - 9x^2yz + 4xz - 2)$

$65x^6y^6z - 45x^4y^4z^2 + 20x^3y^3z^2 - 10x^2y^3z$