Multiplying Monomials and Binomials

Bell Work:

1. What type is this linear function? $4x + 3y = -16$

2. What is a monomial?

3. Multiply $(3x^2yz)(-5xy^3)(-2x^4y^2z^3)$.

4. What is the domain for the linear parent function?

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What is a binomial?

It is the sum of 2 different monomials.

Examples:

1. $a + 2$
2. $4x - 9 = 4x + -9$
3. $5ab + 14ac$
4. $7x^5y^3z^2 - 11x^3y^2z^4$

$5x^2y + 7x^2y$ is not a binomial because we can add them to get $12x^2y$, which is a monomial.

Multiplying Monomials and Binomials

Multiply each set of monomials and binomials.

1. $5a(3a + 6) = 15a^2 + 18a$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

2. $-3b(2b - 11) = -6b^2 + 33b$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

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3. $7c(-4c + 3d) = -28c^2 + 21cd$

1. ***Outside times the 1st.***
   - A. ***Multiply the coefficients.***
   - B. ***Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

4. $-8f(5e - 9f) = -40ef + 72f^2$

1. ***Outside times the 1st.***
   - A. ***Multiply the coefficients.***
   - B. ***Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

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5. $5g^2(8g - 7h) = 40g^3 - 35g^2h$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

6. $4jk(8j^2 + 12jk) = 32j^3k + 48j^2k^2$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

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7. $-7mn^2(-2m^3n + 5mn^2) = 14m^4n^3 - 35m^2n^4$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

8. $10p^3q^2(-6pq^4 - 3p^2q) = -60p^4q^6 - 30p^5q^3$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

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9. $13r^2t^3u(4r^2tu^3 + 3rt^2u^2) = 52r^4t^4u^4 + 39r^3t^5u^3$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

10. $-2v^2w^3x^4(6v^2wx^3 - \qquad -12v^4w^4x^7 + 14v^2w^6x^6$

1. ***Outside times the 1st.***
   - ***A. Multiply the coefficients.***
   - ***B. Multiply the variables. If they are different, put the variables in alphabetically order.***
2. ***Outside times the 2nd.***

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Assignment:

Fluency Practice: Multiplying Monomials and Binomials Worksheet