Factoring Practice Level 1 Leveling-Up Student:

Factor the following polynomials. 1. $2x^2 - 4x - 16$

2.
$$n^2 - 13n - 48$$

3. $-6t^2 - t + 2$

4. $6r^2 - 15r - 36$

5. $-x^2 + x + 6$

6. $6t^2 + t - 12$

Date:

7. Mohammed and Marissa were factoring the polynomial $5n^2 + 20n - 25$. Mohammed got (5n-5)(n+5) and Marissa got (5n+25)(n-1). Who is correct? If either of them made a mistake, please write something they might want to think about when correcting their work.

8. Create a distinct polynomial that you can factor, then factor it.

Factoring Practice Level 2 Leveling-Up Student:

1. Factor the polynomial $x^2 + 14x + 45$, then solve the equation $x^2 + 14x + 45 = 0$ using your factored form.

2. Factor the polynomial $3x^2 - 16x + 12$.

3. Solve the equation $3x^2 - 16x + 12 = 0$ in <u>any way</u>.

4. Factor the polynomial $6x^2 - 2x - 8$, then solve the equation $6x^2 - 2x - 8 = 0$ using your factored form.

5. Factor the polynomial $2x^2 - 10x + 5$, then solve the equation $2x^2 - 10x + 5 = 0$ in any way.

6. When a polynomial is factorable, how are its solutions different from the solutions of non-factorable polynomials?

7. When a polynomial is non-factorable, our only other way of solving at this time is using the quadratic formula. Take a guess: what part of the quadratic formula tells you if the polynomial is factorable or not. You may want to try using the quadratic formula for some of the polynomials you solved by factoring.