**REDEMPTION HOMEWORK** – Factoring Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What two numbers have a product of 32 and a sum of 12? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. What two numbers have a product of $-$30 and a sum of $-7$? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. What two numbers have a product of 56 and a sum of $-$18? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. What two numbers have a product of $-$45 and a sum of 12? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Multiply. 6. Simplify by factoring.

 $(x-9)(2x+3)$ $x^{2}+11x+28$

7. Simplify by factoring. 8. Factor. 9. Factor.

 $3x^{2}-18x$ $3x^{2}+14x-24$ $-4x^{2}-16x-15$

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