

FACTORING POLYNOMIALS

Name: _____ Block: _____ Date: _____

PART A | Factor the polynomial (a = 1)

Find two numbers that MULTIPLY to c and ADD to b. Write your answer in factored form.

1. $x^2 + 7x + 12$

2. $x^2 + 9x + 20$

3. $x^2 - 11x + 24$

4. $x^2 + 3x - 18$

5. $x^2 - 4x - 21$

Hint: Check your factors by multiplying them back together.

FACTORING & ZEROS

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PART B | From factored form to zeros and standard form

For each expression: (1) Find both zeros, then (2) multiply to write standard form $ax^2 + bx + c$.

6. $(x + 2)(x + 5)$

Zeros: $x =$ _____ and $x =$ _____

Standard form: _____

7. $(x - 3)(x - 4)$

Zeros: $x =$ _____ and $x =$ _____

Standard form: _____

8. $(x + 6)(x - 1)$

Zeros: $x =$ _____ and $x =$ _____

Standard form: _____

9. $(x - 7)(x + 2)$

Zeros: $x =$ _____ and $x =$ _____

Standard form: _____

10. $(x - 5)(x - 2)$

Zeros: $x =$ _____ and $x =$ _____

Standard form: _____

Remember: A factor $(x - r)$ gives a zero of $x = r$; use FOIL to expand.