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Name: Key
8A; Algebra 1

Date:_____
Period_____

## Homework

Factor the following

1) $2x^2 + x - 3$ (m A m: −6)

$(2x+3)\left(\frac{2x}{2} - \frac{2}{2}\right)$

$(2x+3)(x-1)$

2) $3x^2 + 2x - 5$ (m A m: −15)

$(3x+5)\left(\frac{3x}{3} - \frac{3}{3}\right)$

$(3x+5)(x-1)$

3) $8x^2 - 13x - 6$ (m A m: −48)

$\left(\frac{8x}{8} - \frac{16}{8}\right)(8x+3)$

$(x-2)(8x+3)$

4) $5x^2 + x - 4$ (m A m: −20)

$\left(\frac{5x}{5} + \frac{5}{5}\right)(5x-4)$

$(x+1)(5x-4)$

5) $4x^2 + 7x - 15$ (m A m: −60)

$\left(\frac{4x}{4} + \frac{12}{4}\right)(4x-5)$

$(x+3)(4x-5)$

6) $10a^2 + 29a - 21$ (m A m: −210)

$\left(\frac{10a}{5} + \frac{35}{5}\right)\left(\frac{10a}{2} - \frac{6}{2}\right)$

$(2a+7)(5a-3)$

) If the area of a rectangle is $3x^2 + 14x + 15$ and the width is $x + 3$, find the expression that represents the length of the rectangle.

$A = L \times W$

$\frac{3x^2 + 14x + 15}{x+3} = \frac{L(x+3)}{x+3}$

$\left(\frac{3x}{3} + \frac{9}{3}\right)(3x+5) = L$

$\frac{(x+3)(3x+5)}{x+3} = L$

$3x + 5 = L$

#'s 8 & 9: The following trinomials represent the area of a square. In each case, find a binomial that could be an expression for the measure of each side of the square.

8) $81x^2 + 18x + 1$ (81)

$\left(\frac{81x}{9} + \frac{9}{9}\right)\left(\frac{81x}{9} + \frac{9}{9}\right)$

$(9x+1)(9x+1)$

$(9x+1)^2$

$A = s^2$

$A = (9x+1)^2$

$s = 9x+1$

9) $4x^2 + 12x + 9$ (36)

$\left(\frac{4x}{2} + \frac{6}{2}\right)\left(\frac{4x}{2} + \frac{6}{2}\right)$

$(2x+3)(2x+3)$

or

$(2x+3)^2$

$A = s^2$

$A = (2x+3)^2$

$s = 2x+3$

**Challenge: Factor: $3a^2 - 7ab + 2b^2$ ($66^2$)

$\left(\frac{3a}{3} - \frac{6b}{3}\right)(3a - 1b)$

$(a - 2b)(3a - b)$