Bell Work: 3-1

N-RN.2.3

The rectangle shown below has a length of 6 feet.

6 feet

The value of the area of the rectangle, in square feet, is an irrational number. Therefore, the number that represents the width of the rectangle must be

A. A whole number
B. A rational number
C. An irrational number
D. A non-real complex number.

Factoring when $a>1$

1) $5x^2 - 18x + 9$

a c	b
4 5	-18
5(9)	
3(15)	$\frac{-3}{5} - \frac{15}{5}$

$A = 5$
$B = -18$
$C = 9$

9(5)
45

$\left(x - \frac{3}{5}\right)\left(x - \frac{15}{5}\right)$

$(5x-3)(x-3)$

2) $4n^2 - 15n - 25$

-100	-15
$4(25)$	
$2(50)$	
$10(10)$	
$5(20)$	$\frac{5}{4} - \frac{20}{4}$

$A = 4$
$B = -15$
$C = -25$

$4(-25) = -100$

$(n + \frac{5}{4})(n - 5)$

$(4n + 5)(n - 5)$

3) $15n^2 - 27n - 6$ — GCF = 3

-90

$A = 15$
$B = -27$
$C = -6$

$15(-6) = -90$

$3(5n^2 - 9n - 2)$

-10	-9
$1(10)$	$\frac{1}{5}$ $\frac{-10}{5}$

$A = 5$
$B = -9$
$C = -2$

$5(-2) = -10$

$3\left(n + \frac{1}{5}\right)(n - 2)$

$3(5n + 1)(n - 2)$

4) $\frac{-6a^2}{-1} \frac{-25a}{-1} \frac{-25}{-1}$

A cannot be negative

GCF = -1

$-1(6a^2 + 25a + 25)$

150	25
6(25)	
5(30)	
10(15)	$\frac{10}{6} + \frac{15}{6}$

A = 6
B = 25
C = 25

6(25) = 150

$-1\left(a + \frac{10}{6}\right)\left(a + \frac{15}{6}\right)$

$-1\left(a + \frac{5}{3}\right)\left(a + \frac{5}{2}\right) \rightarrow -1(3a+5)(2a+5)$