

$$ax^2 + bx + c$$

Factoring Quadratics when $a \neq 1$

"Busting the B"

① Determine $a \cdot c$
and b

② Find a factor pair that
multiplies to $a \cdot c$
and adds to b

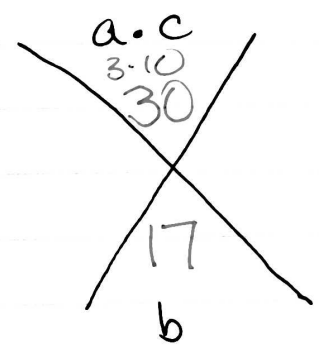
③ ^(split) Bust the B
 $3x^2 + 17x + 10$
 $3x^2 + 2x + 15x + 10$

④ Group the first 2 and
last 2 terms
 $(3x^2 + 2x) + (15x + 10)$

⑤ Take out the GCF from each group
 $x(3x + 2) + 5(3x + 2)$

⑥ Take out the GCF again
 $(3x + 2)(x + 5)$

Example:
 $3x^2 + 17x + 10$



- Factors of 30
- 1 · 30
 - 2 · 15**
 - 3 · 10