WHY-LIGHTING FACTORS

Highlight the critical details that help you make decisions when factoring. Then write your reasoning for what you highlighted in the margins.

<table>
<tr><td>$6x^2 - x - 12$</td><td>$6x^2 + x - 12$</td><td>$6x^2 - 17x + 12$</td><td>$6x^2 + 17x + 12$</td></tr>
<tr><td>$a: 1 \cdot 6,\ 2 \cdot 3$
$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td><td>$a: 1 \cdot 6,\ 2 \cdot 3$
$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td><td>$a: 1 \cdot 6,\ 2 \cdot 3$
$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td><td>$a: 1 \cdot 6,\ 2 \cdot 3$
$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td></tr>
<tr><td>$c = -12$
difference of b</td><td>$c = -12$
difference of b</td><td>$c = +12$
sum of b</td><td>$c = +12$
sum of b</td></tr>
<tr><td>$a: 1 \cdot 6,\ 2 \cdot 3$
$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td><td>$a: 1 \cdot 6,\ 2 \cdot 3$
$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td><td>$a: 1 \cdot 6,\ 2 \cdot 3$
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$c: 1 \cdot 12,\ 2 \cdot 6,\ 3 \cdot 4$</td></tr>
<tr><td>$(2x\quad)(3x\quad)$</td><td>$(2x\quad)(3x\quad)$</td><td>$(2x\quad)(3x\quad)$</td><td>$(2x\quad)(3x\quad)$</td></tr>
<tr><td>$(2x\quad 3)(3x\quad 4)$</td><td>$(2x\quad 3)(3x\quad 4)$</td><td>$(2x\quad 3)(3x\quad 4)$</td><td>$(2x\quad 3)(3x\quad 4)$</td></tr>
<tr><td colspan="2">$c = -12$
signs will be different</td><td colspan="2">$c = +12$
signs will be the same</td></tr>
<tr><td>$b = -1$
bigger product will be negative</td><td>$b = +1$
bigger product will be positive</td><td>$b = -17$
bigger product will be negative</td><td>$b = +17$
bigger product will be positive</td></tr>
<tr><td>$(2x-3)(3x+4)$</td><td>$(2x+3)(3x-4)$</td><td>$(2x-3)(3x-4)$</td><td>$(2x+3)(3x+4)$</td></tr>
</table>