

## Topic 3 Reteach

### Factoring

$$ax^2 + bx + c$$

- ① Find numbers that multiply to  $ac$  and add to  $b$ .
- ② Rewrite " $bx$ " as those 2 numbers
- ③ Factor by grouping

ex:  $x^2 - 8x + 12$

multiply:  $1 \cdot 12 = 12$   
add:  $-8$   
factors:  $-6, -2$

$$\begin{aligned}x^2 - 8x + 12 &= (x^2 - 6x - 2x + 12) \\x(x-6) - 2(x-6) & \\ \boxed{(x-6)(x-2)} &\end{aligned}$$

ex:  $2x^2 + 3x + 1$

multiply:  $2 \cdot 1 = 2$   
Add:  $3$   
factors:  $2, 1$

$$\begin{aligned}(2x^2 + 2x) + 1(x+1) & \\ 2x(x+1) + 1(x+1) & \\ \boxed{(x+1)(2x+1)} &\end{aligned}$$