

L.T.: I can use the distributive
Property and combine like terms

8/28

Combining Like Terms:

1. Group x terms together
2. Group y terms together
3. Group x^2 terms together
4. Group values together

Ex 1:

$$2 + 3b + 4x^2 - 6b + 12x + 13x^2 + 4$$

Diagram illustrating the grouping of like terms:

- The term 2 is circled in green.
- The term $3b$ is enclosed in a pink box.
- The term $4x^2$ is circled in red.
- The term $-6b$ is enclosed in a pink box.
- The term $12x$ is circled in green.
- The term $13x^2$ is circled in red.
- The term 4 is circled in green.

Arrows point from the circled terms to the grouped terms below:

- A green arrow points from the circled 2 to the grouped term 6 .
- A pink arrow points from the enclosed $3b$ to the grouped term $-3b$.
- A red arrow points from the circled $4x^2$ to the grouped term $17x^2$.

The final grouped expression is:

$$\boxed{6 - 3b + 17x^2 + 12x}$$

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Distributive Property

a. $4(x+3)$

$$4x + 12$$

b. $5x(x+2)$

$$5x^2 + 10x$$

Solving Equations

a. $2x + 3 = 15$

$$\begin{array}{r} \downarrow -3 \\ -3 \end{array}$$

$$\begin{array}{r} 2x \quad \pm 12 \\ \hline 1 \quad 2 \end{array}$$

$$\begin{array}{r} x \quad \div 6 \\ \hline \end{array}$$

b. $4(x+3) = 8$

$$4x + 12 = 8$$

$$\begin{array}{r} -12 \div -12 \\ \hline \end{array}$$

$$\begin{array}{r} 4x \quad \div -4 \\ \hline 1 \quad +4 \\ x \quad \div -1 \end{array}$$