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# Algebraic Expressions

— You are SMART! You are CAPABLE —

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Each week, Chris gets an allowance of \$12 plus \$4 for each chore he does.  
His younger sister Ana gets an allowance of \$8 plus \$3 per chore.  
Write an expression for how much their parents give Chris and Ana each week if they do the same number of chores.

Chris...  $\underline{\hspace{1cm}} + \underline{\hspace{1cm}}c$

Ana...  $\underline{\hspace{1cm}} + \underline{\hspace{1cm}}c$

Total...  $\underline{\hspace{1cm}} + \underline{\hspace{1cm}}c$

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## Simplify each expression.

$$(4x + \frac{1}{3}) + (11x - 3\frac{2}{3})$$

$$\underline{\hspace{1cm}} \overset{x}{\hspace{1cm}} \underline{\hspace{1cm}} \underline{\hspace{1cm}} \overset{3\frac{1}{3}}{\hspace{1cm}}$$

↑  
+ or -

$$(-0.75x - 6) - (3.5x + 1.6)$$

$$\underline{\hspace{1cm}} \overset{x}{\hspace{1cm}} \underline{\hspace{1cm}} \underline{\hspace{1cm}}$$

↑  
+ or -

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## Simplify each expression.

$$0.5(4b - 12c) + 4c$$

$$\underline{\hspace{1cm}} \overset{b}{\hspace{1cm}} \underline{\hspace{1cm}} \underline{\hspace{1cm}} \overset{c}{\hspace{1cm}}$$

$$6x - 2(x - 3) - x$$

$$\underline{\hspace{1cm}} \overset{x}{\hspace{1cm}} \underline{\hspace{1cm}} \underline{\hspace{1cm}}$$

$$6x - 4(2x - 3) - 4x$$

$$\underline{\hspace{1cm}} \overset{x}{\hspace{1cm}} \underline{\hspace{1cm}} \underline{\hspace{1cm}}$$

$$\frac{2}{3}(6e + 9f - 21g) - 8f$$

$$\underline{\hspace{1cm}} \overset{e}{\hspace{1cm}} \underline{\hspace{1cm}} \overset{f}{\hspace{1cm}} \underline{\hspace{1cm}} \overset{g}{\hspace{1cm}}$$

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**Factor each expression.**

**- Taking a simplified expression and going in reverse.**

$$3x + 3$$

$$9x - 15$$

$$\underline{\hspace{1cm}}(x + \underline{\hspace{1cm}})$$

$$\underline{\hspace{1cm}}(\underline{\hspace{1cm}}x - \underline{\hspace{1cm}})$$

$$25x + 115$$

$$12x + 16y - 88$$

$$\underline{\hspace{1cm}}(\underline{\hspace{1cm}}x + \underline{\hspace{1cm}})$$

$$\underline{\hspace{1cm}}(\underline{\hspace{1cm}}x + \underline{\hspace{1cm}}y - \underline{\hspace{1cm}})$$

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