Adding and Subtracting Algebraic Fractions

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Literacy

The keyboard had sticking keys and missed out all the vowels. Discover the words and write one sentence including as many of the words as you can. Which word totals 12?

dnmntr cmmn xpnd smplfy Cffcnt

Memory

When adding and subtracting fractions you always need a common denominator. To get a common denominator we find the LCM

Examples

1) $\frac{x}{2}+\frac{x}{3}$
$=\frac{3x}{6}+\frac{2x}{6}$
$=\frac{5x}{6}$

2) $\frac{4}{2x}+\frac{1}{3}$
$=\frac{12}{6x}+\frac{2x}{6x}$
$=\frac{2x+12}{6x}$
$=\frac{x+6}{3}$

Skill 1

ROK - Warm up

1) $\frac{3}{7}+\frac{2}{7}=$
2) $\frac{1}{2}+\frac{3}{4}=$
3) $\frac{4}{9}+\frac{2}{3}=$
4) $\frac{3}{5}-\frac{2}{7}=$

Skill 2

1) $\frac{x}{3}+\frac{x}{3}=$
2) $\frac{2x}{8}+\frac{3x}{8}=$
3) $\frac{7x}{9}-\frac{x}{9}=$
4) $\frac{3y}{5}+\frac{8y}{5}=$
5) $\frac{x}{4}+\frac{y}{4}=$

Skill 3

1) $\frac{x}{4}+\frac{x}{2}=$
2) $\frac{5x}{7}-\frac{3x}{14}=$
3) $\frac{3x}{5}+\frac{x}{4}=$
4) $\frac{5y}{7}+\frac{2y}{3}=$
5) $\frac{7x}{7}-\frac{x}{10}=$

Skill 4

1) $\frac{3}{x}+\frac{2}{2x}=$
2) $\frac{2}{5x}-\frac{7}{10x}=$
3) $\frac{2}{7x}+\frac{3}{7}=$
4) $\frac{5}{y}+\frac{3x}{xy}=$
5) $\frac{2}{3x}-\frac{5}{2y}=$

Skill 5

1) $\frac{x}{2}+\frac{x+1}{4}=$
2) $\frac{(x+2)}{2}+\frac{(x+3)}{3}=$
3) $\frac{(x-3)}{3}+\frac{(x+4)}{4}=$
4) $\frac{x+2}{5}+\frac{x-3}{3}=$
5) $\frac{2x+1}{2}+\frac{3x+1}{5}=$

Stretch 1

1) $\frac{x}{2}+\frac{x}{3}+\frac{x}{4}=$
2) $\frac{7x}{10}+\frac{2x}{5}-\frac{x}{2}=$
3) $\frac{5x}{6}-\frac{x}{3}+\frac{4x}{9}=$

Stretch 2

1) $\frac{4}{xy^2}-\frac{x}{y}=$
2) $\frac{3x}{x^2}+\frac{2y}{yx}=$
3) $\frac{5}{2xyz}+\frac{6x}{x^2yz}=$

Stretch 3

1) $\frac{2x+1}{2}-\frac{3x+1}{5}=$
2) $\frac{7x+4}{2}-\frac{2x-1}{7}=$

Stretch 4

Solve the following

1) $\frac{x}{5}+\frac{x}{3}=16$
2) $\frac{4x}{5}-\frac{x}{7}=23$
3) $\frac{5x}{7}+\frac{2x}{6}=22$
4) $\frac{x+2}{2}+\frac{x-2}{3}=7$
5) $\frac{3x-6}{2}+\frac{2x+4}{3}=7$