

Word Problems Involving Adding and Subtracting Fractions

We've looked a lot at the processes of adding and subtracting fractions, but now it is time to apply these skills to word problems.

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The first type is when we are asked to **COMPARE** fractions. Typically you are asked who has the most of something, so we can use equivalent fractions to solve these.

- 1). John and Claire each bake a cake. John eats $\frac{5}{8}$ of his cake and Claire eats $\frac{7}{10}$ of her cake. Who has eaten more (you must show working out)?

$$\begin{aligned} \text{John } \frac{5}{8} \times \frac{5}{5} & \quad \text{Claire } \frac{7}{10} \times \frac{4}{4} \\ & = \frac{25}{40} \quad \quad = \frac{28}{40} \end{aligned}$$

Claire has eaten more because $\frac{28}{40} > \frac{25}{40}$

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The second type will be when you will need to **ADD**. Words that will give you a clue to this are: combined, together, total etc.

- 7). There are $2\frac{3}{4}$ litres of milk in a bowl. $\frac{7}{8}$ of a litre of milk is added to the bowl. How much milk is now in the bowl?

$$\begin{aligned} & 2\frac{3}{4} + \frac{7}{8} \\ & = \frac{11}{4} + \frac{7}{8} \\ & = \frac{22}{8} + \frac{7}{8} \\ & = \frac{29}{8} \Rightarrow 3\frac{5}{8} \text{ litres of milk} \end{aligned}$$

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The third type will be when you need to **SUBTRACT**. Words that will give you a clue to this are: difference, how much more is needed, how much is left etc.

- 10). A full bottle of lemonade holds $2\frac{1}{2}$ litres. Lynne fills a glass to the top with lemonade from the full bottle. The glass holds $\frac{1}{3}$ litre. How much lemonade is left in the bottle?

$$\begin{aligned} & 2\frac{1}{2} - \frac{1}{3} \quad \quad \begin{array}{r} 2 \quad 4 \quad \textcircled{6} \quad 8 \quad 10 \\ 3 \quad \textcircled{6} \quad 9 \quad 12 \quad 15 \end{array} \\ & = \frac{5}{2} - \frac{1}{3} \\ & = \frac{15}{6} - \frac{2}{6} \\ & = \frac{13}{6} \Rightarrow 2\frac{1}{6} \text{ litres of lemonade} \end{aligned}$$

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OK, so the questions for you to try from the handout are...

#s 2, 6, 8, 9, 12, 13, 16, 21, 24 & 26

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