Try to calculate the following answers mentally. If you need to, use paper and pencil or make a diagram to help.

1. On Wednesday, the value of Feel No Pane Glass stock was $27\frac{3}{4}$. By Friday, it had increased to $30\frac{1}{16}$. By how much had it risen?

Method 1: Use Subtraction

$30\frac{1}{16} - 27\frac{3}{4}$	Subtract to find the difference.
$27\frac{3}{4} = 27\frac{12}{16}$	A common denominator is 16, so rename $27\frac{3}{4}$.
$30\frac{1}{16} = 29\frac{17}{16}$	Rename $30\frac{1}{16}$. One whole is equal to $\frac{16}{16}$, so $30\frac{1}{16} = 29\frac{17}{16}$.
$29\frac{17}{16} - 27\frac{12}{16} = 2\frac{5}{16}$	Subtract the whole numbers and subtract the fractions to find how much the stock has risen.

Method 2: Use Addition

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$27\frac{3}{4} + \frac{1}{4} = 28$	Add on to $27\frac{3}{4}$ to get $30\frac{1}{16}$. First add $\frac{1}{4}$ to get 28.
$28 + 2\frac{1}{16} = 30\frac{1}{16}$	Add an additional $2\frac{1}{16}$ to get $30\frac{1}{16}$.
$\frac{1}{4} + 2\frac{1}{16} = 2\frac{5}{16}$	Find the total amount added to $27\frac{3}{4}$.

The stock has risen $2\frac{5}{16}$.

2. On the first day of December, the office plant was $30\frac{1}{4}$ inches tall. At the end of January, the plant was $34\frac{1}{2}$ inches tall. On the average, how much is the plant growing each month?

$34\frac{1}{2} - 30\frac{1}{4}$	Subtract the heights to find how much the plant grew in the two months.

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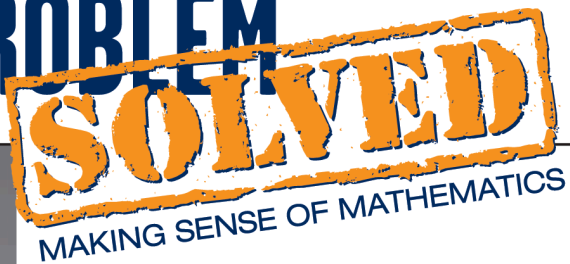
$34\frac{1}{2} = 34\frac{2}{4}$ — A common denominator is four, so rename $34\frac{1}{2}$.

$34\frac{2}{4} - 30\frac{1}{4} = 4\frac{1}{4}$ — Subtract the whole numbers and subtract the fractions. The plant grew $4\frac{1}{4}$ inches in two months.

$4\frac{1}{4} \div 2 = 2\frac{1}{8}$ — The average amount the plant grew each month is half the amount it grew in two months.

The plant grew an average of $2\frac{1}{8}$ inches each month.

3. After learning about healthy eating in his Health class at school, Micah decided to try to change his eating habits. He wondered if a healthy diet would have any effect on his weight. On Monday he weighed 156 pounds. While on his healthy diet, he noticed that he lost an average of $\frac{3}{8}$ pound every two days. How much did Micah weigh after two weeks on his healthy eating plan?

$7 \times \frac{3}{8} = \frac{21}{8}$ or $2\frac{5}{8}$ — There are 14 days in two weeks and Micah lost $\frac{3}{8}$ pound every two days, so multiply $7 \times \frac{3}{8}$ to find the total amount he lost in two weeks.

Method 1:

$156 - 2\frac{5}{8}$ — Subtract the total amount of weight he lost from his original weight.

$156 = 155\frac{8}{8}$ — Rename 156. One whole is equal to $\frac{8}{8}$, so $156 = 155\frac{8}{8}$.

$155\frac{8}{8} - 2\frac{5}{8} = 153\frac{3}{8}$ — Subtract the whole numbers and subtract the fractions.

Method 2:

$156 - 2 = 154$ — Subtract $2\frac{5}{8}$ in two parts. First subtract 2 pounds from 156 pounds.

$154 - \frac{5}{8} = 153\frac{3}{8}$ — Subtract the remaining $\frac{5}{8}$ pound from 154 pounds.

Micah weighed $153\frac{3}{8}$ pounds after two weeks.

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