Aisha has been practising arithmetic with fractions.

She worked out $4\frac{1}{2} - 3$ but then she realised that she had misread the question, and the teacher had actually asked her to work out $4\frac{1}{2} \div 3$

When she worked out the division, she was surprised to find she got the same answer to both calculations!

Aisha decided to look for other calculations where replacing the division sign by a subtraction sign does not alter the result of the calculation.

Here are some of the examples she tried:

$3\frac{1}{2} - 2$ and $3\frac{1}{2} \div 2$

$5\frac{1}{2} - 4$ and $5\frac{1}{2} \div 4$

$5\frac{1}{3} - 4$ and $5\frac{1}{3} \div 4$

$6\frac{1}{7} - 5$ and $6\frac{1}{7} \div 5$

$7\frac{1}{5} - 6$ and $7\frac{1}{5} \div 6$

**Which of Aisha's examples give the same answer for both calculations?**
**Can you spot any patterns?**

Can you find a general rule?

**Extension:**

Can you justify this rule algebraically?

What happens if you replace the subtraction sign with an addition sign?