# Week 9, Day 2 <br> Short division 

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the Learning Reminders. They come from our PowerPoint slides.

2. Tackle the questions on the Practice Sheet. There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.

3. Finding it tricky? That's OK... have a go with a grown-up at A Bit Stuck?

4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the Investigation...

## Learning Reminders



$$
\varepsilon / \tau 乙 8=9 / \downarrow 乙 8=\quad \forall \frac{9_{\tau} 6 \downarrow}{\downarrow 乙 8} 9
$$

## Use short division.

$$
\begin{array}{rr}
496 \div 3=165^{1} / 3 & 496 \div 6=82^{2} / 3 \\
496 \div 12=41^{1} / 3 & 896 \div 3=298^{2} / 3
\end{array}
$$

## Today's top tip is use multiplication to check division.

## Use multiplication to check two of the divisions. What do you need to do with the remainder?

We need to multiply the fraction part of the answer, or add the remainder on if it has not been written as a fraction.

$$
\begin{aligned}
& 82^{2} / 3 \times 6 \\
& \begin{array}{c|c|c}
\mathrm{x} & 80 & 2 \\
\hline 6 & 480 & 12
\end{array}=492 \\
& 2 / 3 \times 6=12 / 3=4 \\
& 492+4=496
\end{aligned}
$$

## Practice Sheet Mild Short division

Write any remainders as fractions.

1. $4 \longdiv { 4 5 6 }$
2. $3 \longdiv { 5 2 3 }$
3. $6 \longdiv { 6 7 8 }$
4. $5 \longdiv { 7 3 6 }$
5. $4 \longdiv { 6 2 2 }$
6. $8 \longdiv { 9 7 2 }$
7. $3 \longdiv { 4 2 7 }$
8. $4 \longdiv { 1 2 9 }$
9. $3 \longdiv { 1 9 4 }$
10. $5 \longdiv { 4 2 7 }$

## Challenge

Marika says 'The biggest remainder you can have when dividing by 6 is 5 .'
Do you agree with her? Explain your ideas.

## Practice Sheet Hot <br> Short division

Write any remainders as fractions and as decimals (to two decimal places) where you can.

| 1. $4 \longdiv { 4 2 9 }$ | 7. $1 2 \longdiv { 4 8 6 }$ |
| :--- | :--- |
| 2. $5 \longdiv { 6 4 7 }$ | 8. $1 2 \longdiv { 6 2 7 }$ |
| 3. $8 \longdiv { 8 6 0 }$ | 9. $1 1 \longdiv { 4 1 9 }$ |
| 4. $7 \longdiv { 8 7 3 }$ | 10. $8 \longdiv { 5 7 8 }$ |
| 5. $4 \longdiv { 3 5 9 }$ | $1 1 . 6 \longdiv { 2 9 8 }$ |
| 6. $6 \longdiv { 1 9 5 }$ | 12. $1 1 \longdiv { 5 7 5 }$ |

## Challenge

Write a division of a 3-digit number by 1-digit number with an answer greater than any of the answers to these questions.
Write a division of a 3-digit number by 1 -digit number with an answer less than any of the answers to these questions.

## Practice Sheets Answers

## Short division (mild)

1. $456 \div 4=114$
2. $523 \div 3=174 \frac{1}{3}$
3. $678 \div 6=113$
4. $736 \div 5=147 \frac{1}{5}$
5. $622 \div 4=155 \frac{1}{2}$
6. $972 \div 8=121 \frac{1}{2}$
7. $427 \div 3=142 \frac{1}{3}$
8. $129 \div 4=32 \frac{1}{4}$
9. $194 \div 3=64 \frac{2}{3}$
10. $427 \div 5=85 \frac{2}{5}$

## Challenge

Yes, Marika is correct. If you had more than 5 left over, you could make another group of 6 !

## Short division (hot)

1. $429 \div 4=107 \frac{1}{4}=107.25$
2. $647 \div 5=129 \frac{2}{5}=129.4$
3. $860 \div 8=107 \frac{1}{2}=107.5$
4. $873 \div 7=124 \frac{5}{7}=124.71$
5. $\quad 359 \div 4=89 \frac{3}{4}=89.75$
6. $195 \div 6=32 \frac{1}{2}=32.5$
7. $486 \div 12=40 \frac{1}{2}=40.5$
8. $627 \div 12=52 \frac{1}{4}=52.25$
9. $419 \div 11=38 \frac{1}{11}=38.09$
10. $578 \div 8=72 \frac{1}{4}=72.25$
11. $298 \div 6=49 \frac{2}{3}=49.67$
12. $575 \div 11=52 \frac{3}{11}=52.27$

## Challenge

$\begin{array}{ll}\text { e.g. } & 940 \div 3=313 \frac{1}{3} \\ \text { or } & 123 \div 9=13 \frac{2}{3}\end{array}$



