

Written subtraction of 3-digit numbers with renaming

WHAT THIS LESSON TEACHES

When a column has too few to subtract from, borrow one from the column to its left. It arrives as ten in the smaller column, so you can then take away.

→ In $342 - 158$ you cannot take 8 from 2, so rename one ten as ten ones, making 12 in the units.

→ In $502 - 247$ the tens is 0, so take a hundred first to give the tens ten, then rename into the units.

MODEL THIS ON THE BOARD

WORKING $342 - 158$

① Units: cannot take 8 from 2, so rename 1 ten. The tens become 3 and the units become 12. Then $12 - 8 = 4$.

② Tens: cannot take 5 from 3, so rename 1 hundred. The hundreds become 2 and the tens become 13. Then $13 - 5 = 8$.

③ Hundreds: $2 - 1 = 1$.

$$\begin{array}{r} \overset{2}{\cancel{3}} \overset{13}{\cancel{4}} \overset{12}{\cancel{2}} \\ - 158 \\ \hline 184 \end{array}$$

DISCUSSION STARTER

REFLECT Which rename was trickiest — across a zero, or in more than one column?

ANSWER KEY

a) 333

b) 458

c) 274

Q1: 286

Q2: 275

Q3: 255

Spot: Oisín subtracted the smaller digit from the larger in each column instead of renaming (units: $8 - 2 = 6$; tens: $5 - 4 = 1$). He must rename: units $12 - 8 = 4$, tens $13 - 5 = 8$, hundreds $2 - 1 = 1$. The correct answer is 184.

EXTENSION SHEET · STRETCH ANSWERS

S1: 2921

S2: 2929

S3: 3955

S4: 1499

S5: 2298

Investigation: How many renames? — open-ended; scan pupils' working for valid solution paths rather than a single answer.