

Long division by two-digit divisors

WHAT THIS LESSON TEACHES

When dividing by a two-digit number, estimate the quotient digit first then multiply, subtract and bring down.

- In 884 divided by 17, estimate 50 because 17 times 50 equals 850.
- For 672 divided by 16, first estimate 40.

MODEL THIS ON THE BOARD

LONG DIVISION STEPS FOR 884 DIVIDED BY 17

- 1 Estimate the first digit: 17 into 88 goes 5 times, write 5 above the 8.
- 2 Multiply 5 by 17 to get 85, subtract from 88 to leave 3.
- 3 Bring down the 4 to make 34.
- 4 17 into 34 goes 2 times, write 2 above the 4.
- 5 Multiply 2 by 17 to get 34, subtract to leave 0.

ANSWER KEY

a) 38

b) 42

c) 36

Q1: 45

Q2: 51

Q3: 31 points

a) **Never** — The estimate may need adjustment if too high or low.

b) **Always** — This is the required step in the long division algorithm.

c) **Never** — It can divide exactly with no remainder as in some examples.

d) **Sometimes** — It helps but is not always faster if the estimate is wrong.

EXTENSION SHEET · STRETCH ANSWERS

S1: 88 r 6

S2: 74

S3: 49