

Long division by two-digit divisors

CURRICULUM ALIGNMENT

NUM.OPS.4

build upon, select and make use of a range of operation strategies.

INTERACTIVES Target Number · challenge, display, explore

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

Q4: 48 fans

a) Sometimes : True for $96 \div 32$, guessing 3; false for $156 \div 26$, where a first guess of 5 must go up to 6.

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

c) Sometimes : True for $100 \div 12$ (8 remainder 4); false for $156 \div 12 = 13$.

d) Never : Even $999 \div 10$ is only 99 remainder 9, so it is less than 100 times.

EXTENSION SHEET · STRETCH ANSWERS

S1: 145 r 1

S2: 35

S3: 169.3

S4: 112 r 7

S5: 377.3