

Decimals on the number line to thousandths

WHAT THIS LESSON TEACHES

To place a decimal like 0.342 exactly, zoom into a smaller stretch of the number line so the marks are close enough together.

→ To place 0.342 we zoom from the 0..1 line into the 0.3..0.4 line, where each small mark is 0.01.

→ 5, 0.50 and 0.500 all mark the same point - five tenths.

MODEL THIS ON THE BOARD

PLACING 0.342 ON THE NUMBER LINE

- ① Start with the line from 0.3 to 0.4.
- ② Each mark shows 0.01 so find the 0.34 mark.
- ③ The next small marks are thousandths: 0.341, 0.342, 0.343.
- ④ **0.342** sits three marks after 0.34.

ANSWER KEY

Scaffold: visual check on the page

Q1: halfway between 0.4 and 0.5

Q2: at the right end (same as 0.5)

Q3: just after 0.34 (between 0.34 and 0.35)

Q4: just after 0.45 (between 0.45 and 0.46)

Q5: just before 0.39 (between 0.38 and 0.39)

a) **Always** — Trailing zeros do not change the value so they mark the same point.

b) **Always** — Each zoom makes marks ten times finer so there is always room for the next decimal.

c) **Sometimes** — On a 0 to 1 line the marks may be too far apart but a zoom allows exact placement.

d) **Always** — You can keep zooming in so there is always room for more decimals.

EXTENSION SHEET · STRETCH ANSWERS

S1: $6.26 < 6.89 < 7.753 < 9.4$

S2: $2.88 < 4.03 < 7.02 < 7.13$