

Percentages as fractions and decimals

WHAT THIS LESSON TEACHES

Percent means out of one hundred, so any percentage is that many hundredths. We write it as a fraction over 100, simplify, and as a decimal by dividing by 100.

→ 35% means 35 out of 100, written as 35/100.

→ 80% = $80/100 = 4/5$ (dividing top and bottom by 20).

→ 5% = 5 divided by 100 = 0.05.

MODEL THIS ON THE BOARD

CHANGE 35% TO FRACTION AND DECIMAL

- 1 Write 35% as 35 out of 100, so the fraction is 35/100.
- 2 Divide top and bottom by 5 to simplify: 7/20.
- 3 Divide 35 by 100 to get the decimal: 0.35.

ANSWER KEY

Scaffold: visual check on the page

Q1: $20/100 = 1/5 = 0.2$

Q2: $50/100 = 1/2 = 0.5$

Q3: $40/100 = 2/5 = 0.4$

Q4: $75/100 = 3/4 = 0.75$

Q5: $35/100 = 7/20 = 0.35$

- a) Always — By definition percent means out of 100.
- b) Always — Dividing 25 by 100 always gives 0.25.
- c) Always — 40/100 divides by 20 to give 2/5.
- d) Never — 75/100 simplifies to 3/4.

EXTENSION SHEET · STRETCH ANSWERS

S1: 97 squares (97% of 100 = 97)

S2: 17 squares (17% of 100 = 17)

S3: 18 squares (18% of 100 = 18)

S4: 18 squares (18% of 100 = 18)

S5: 88 squares (88% of 100 = 88)