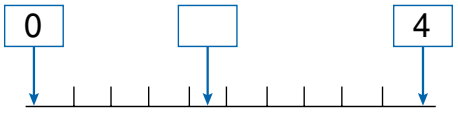
NUMBER — Mental calculation methods

Pupils should learn to:	As outcomes, Year 7 pupils should, for example:
Make and justify estimates and approximations (of numbers and calculations)	Use, read and write, spelling correctly: *guess, estimate, approximate, roughly, nearly, approximately, too many, too few, enough, not enough*… and the symbol ≈. Understand that there are occasions when there is no need to calculate an exact answer and an estimate is sufficient. Understand that the context affects the method used for estimating. For example: • If I have £10 and some shopping to do, I need to round the amounts up in order to check I have enough money. • If I estimate how much paint I need to paint a room, I need to round up so I have enough paint. Estimate the position of a point on a marked scale, given the values of the end points. For example: • Estimate the number that the arrow is pointing to:  if the end points of the scale are 0 and 4; if the end points are $^{-}5$ and 5; if the end points are 2.7 and 4.7. Know that there are different ways for finding an approximate answer. For example: • An approximate answer for 404 – 128 can be 400 – 100 = 300 or 400 – 130 = 270 Which is the better estimate? • An approximate answer for 7.5 × 2.5 can be 7 × 3 = 21 or 8 × 2 = 16 or between 7 × 2 = 14 and 8 × 3 = 24. Use a **calculator** to check which is the closer estimate. Recognise what makes a 'good approximation'. Answer questions such as: • Which is the best approximation for 40.8 – 29.7? A. 408 – 297 C. 41 – 30 B. 40 – 29 D. 4.0 – 2.9 • Which is the best approximation for 9.18 × 3.81? A. 10 × 3 C. 9 × 3 B. 10 × 4 D. 9 × 4 **Link to rounding (pages 42–5), and checking results of calculations (pages 110–11).**