

# Answer Key — Equivalent Fractions

Year 4 Mathematics · Number and algebra · WA4MNAFR1

## Section A — Fluency (16 marks, 1 mark each)

1. 2
2. 3
3. 4
4. 6
5. 3
6. 6
7. 3
8. 6
9. 2
10. 3
11. 1
12. 1
13. 4
14. 1
15. 1
16. 1

## Section B — Core (21 marks)

1. Any two valid equivalents, e.g.  $\frac{4}{6}$  and  $\frac{6}{9}$ . [3 marks, 1 per correct fraction plus working]
2.  $\frac{4}{8} = \frac{1}{2}$  in simplest form; equivalent with denominator 16 is  $\frac{8}{16}$ . [2 marks simplifying, 2 marks equivalent fraction]
3.  $\frac{12}{15}$  is not equivalent to  $\frac{3}{4}$  ( $\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{15}{20}$ , but  $\frac{12}{15}$  simplifies to  $\frac{4}{5}$ , not  $\frac{3}{4}$ ); the others simplify to  $\frac{3}{4}$ . [2 marks identifying  $\frac{12}{15}$ , 1 mark explanation]
4.  $\frac{2}{6} = \frac{1}{3}$  in simplest form; equivalent with denominator 9 is  $\frac{3}{9}$ . [2 marks simplifying, 2 marks equivalent fraction]
5.  $\frac{10}{15} = \frac{2}{3}$  in simplest form (divide top and bottom by 5). [3 marks]
6.  $\frac{4}{10}$  simplifies to  $\frac{2}{5}$  (divide by 2), which matches Class B's  $\frac{2}{5}$  exactly, so both classes receive the same fraction. [2 marks simplifying, 2 marks explanation]

## Section C — Reasoning (9 marks) — sample responses, award marks for valid reasoning

1.  $\frac{2}{4}$  can be simplified by dividing the numerator and denominator by 2, giving  $\frac{1}{2}$  — the amount represented doesn't change, only how it's split into parts. [2 marks]
2. Multiplying only the denominator makes the fraction represent a smaller amount, since the same number of parts (numerator) is now being compared to more total parts — both numerator and denominator must be multiplied by the same number to keep the value equal. [2 marks]
3. Simplify both fractions to see if they reduce to the same simplest form:  $\frac{6}{10} = \frac{3}{5}$  and  $\frac{9}{15} = \frac{3}{5}$ , so they are equivalent. [2 marks]
4. False. A fraction's value depends on the relationship between numerator and denominator, not the size of the numbers, e.g.  $\frac{4}{8}$  ( $= \frac{1}{2}$ ) is smaller than  $\frac{3}{4}$ , even though  $\frac{4}{8}$  has bigger individual numbers. [2 marks valid example, 1

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mark for correctly saying false]

### Section D — Challenge (7 marks)

1. Any valid example works, e.g.  $\frac{3}{5} = \frac{15}{25}$ , and 25 is between 20 and 30. [2 marks]
2.  $\frac{4}{7} = \frac{20}{35}$  (multiply top and bottom by 5), so the denominator is 35. [2 marks]
3. Jack is correct:  $\frac{5}{8} = \frac{15}{24}$  (multiply by 3). Mia is incorrect:  $\frac{5}{8}$  would need to be multiplied by the same number on top and bottom, but  $5 \times 2 = 10$  while  $8 \times 2 = 16$ , not 18, so  $\frac{5}{8} \neq \frac{10}{18}$ . [2 marks correct working, 1 mark correct conclusion for both]