Steady Steps Maths

FREE UNIT TEST · TOPIC 5

FREE SAMPLE · UNIT TEST A

# Equivalent & Comparing Fractions

Unit Test A · 40 marks · about 40 minutes

GRADE 4




Common Core 4.NF.A.1–2

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Name _____ Date _____

UNIT TEST A

# Equivalent & Comparing Fractions

40 marks · about 40 minutes · Common Core 4.NF.A.1–2

**Name** _____ **Date** _____

## Instructions

- Answer **every** question in the space given.
- Show your working: in Sections B and C you get marks for your method, even if the final answer is wrong.
- The number in brackets, like [2], shows how many marks a question is worth.
- You have about 40 minutes. A calculator is **not** needed.
- Check your answers if you finish early.

## Your score

| Section | Questions | Marks | Your score |
|---|---|---|---|
| A · Quick questions | 1–10 | 10 | |
| B · Show your working | 11–16 | 17 | |
| C · Problem solving | 17–18 | 13 | |
| **Total** | | **40** | |

Percentage: _____ % 85%+ excellent · 65–84% good · 45–64% keep practising · below 45% revise the packs first


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## SECTION A Quick questions

1 mark each · write your answer in the box

1. Write a fraction that is equivalent to $\frac{5}{6}$. [1]

   Answer

2. Find the missing number: $\frac{1}{4} = \frac{\square}{8}$ [1]

   Answer

3. Find the missing number: $\frac{1}{3} = \frac{2}{\square}$ [1]

   Answer

4. Multiply the numerator and the denominator of $\frac{1}{2}$ by 3. What fraction do you get? [1]

   Answer

5. Are $\frac{1}{5}$ and $\frac{1}{10}$ equivalent? Write Yes or No. [1]

   Answer

6. Write <, > or = : $\frac{6}{8} \square \frac{3}{8}$ [1]

   Answer

7. Write <, > or = : $\frac{3}{8} \square \frac{3}{4}$ [1]

   Answer

8. Is $\frac{1}{6}$ more than or less than $\frac{1}{2}$? [1]

   Answer

9. Write <, > or = : $\frac{1}{2} \square \frac{5}{8}$ [1]

   Answer

10. Order from least to greatest: $\frac{1}{2}, \frac{7}{12}, \frac{5}{6}$ [1]

    Answer

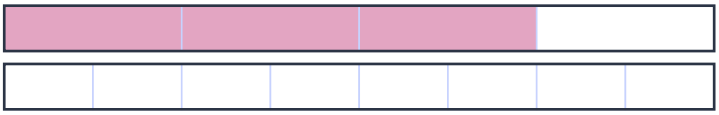

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## SECTION B Show your working

Marks are given for your method

**11** The two strips are the same size. The top strip shows $\frac{3}{4}$. Shade the bottom strip to show the same amount. Then write the equivalent fraction. [2]



Answer _____

**12** Omar says $\frac{1}{3} = \frac{2}{4}$ because 1 was added to the numerator and to the denominator. [3]

(a) Is Omar right? (b) Show how you know, using a common denominator.

(c) Write a fraction equal to $\frac{1}{3}$ with the denominator 12.

Answer _____

**13** Compare $\frac{2}{3}$ and $\frac{1}{2}$ by writing them with a common denominator. Then write <, > or =. [3]

Answer _____


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**14** Use $\frac{1}{2}$ to compare $\frac{1}{8}$ and $\frac{9}{10}$. Which is greater? Explain. [3]

Answer

**15** Order these fractions from greatest to least: $\frac{1}{8}$, $\frac{7}{8}$, $\frac{1}{2}$, $\frac{1}{4}$ [2]

Answer

**16** Here are four fractions: $\frac{1}{5}$, $\frac{3}{12}$, $\frac{9}{10}$, $\frac{1}{4}$ [4]
(a) Which two are equivalent? Show how you know. (b) Which fraction is the greatest? (c) Which fractions are less than $\frac{1}{2}$?

Answer


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## SECTION C Problem solving

Longer questions with several steps

**17** Lina, Sami and Huda each have a pizza of the same size. Lina eats $\frac{1}{4}$ of a pizza, Sami eats $\frac{3}{12}$ and Huda eats $\frac{1}{2}$. [7]

(a) Which two children eat the same amount? Show how you know.

(b) Who eats the most? Show how you know.

(c) Does Lina eat more or less than half of a pizza? Explain.

Answer

**18** Nora has $\frac{5}{12}$ litre of milk. Recipe A needs $\frac{1}{6}$ litre of milk and recipe B needs $\frac{1}{4}$ litre. [6]

(a) Write $\frac{1}{6}$ and $\frac{1}{4}$ with the same denominator. (b) Which recipe needs more milk?

(c) Does Nora have enough milk for recipe A? Show how you know. (d) Does recipe B need more or less than $\frac{1}{2}$ litre?

Answer


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# Mark scheme

For parents · give the marks shown; method marks can be given even if the final answer is wrong

**Tip:** Give method marks generously when the working shows the right idea. If a mistake early on is carried through correctly, give the later marks. Accept equivalent fractions and mixed numbers unless a form is asked for.

| Q | Answer | Marks | How to award the marks |
|---|---|---|---|
| 1 | e.g. $\frac{10}{12}$ (any equal fraction) | 1 | |
| 2 | 2 | 1 | |
| 3 | 6 | 1 | |
| 4 | $\frac{3}{6}$ | 1 | |
| 5 | No | 1 | |
| 6 | $\frac{6}{8} > \frac{3}{8}$ | 1 | |
| 7 | $\frac{3}{8} < \frac{3}{4}$ | 1 | |
| 8 | less than $\frac{1}{2}$ | 1 | |
| 9 | $\frac{1}{2} < \frac{5}{8}$ | 1 | |
| 10 | $\frac{1}{2}, \frac{7}{12}, \frac{5}{6}$ | 1 | |
| 11 | 6 parts shaded; $\frac{3}{4} = \frac{6}{8}$ | 2 | 1 mark for shading 6 of the 8 parts; 1 mark for $\frac{6}{8}$. |
| 12 | (a) No (b) $\frac{1}{3} = \frac{4}{12} < \frac{2}{4} = \frac{6}{12}$ (c) $\frac{4}{12}$ | 3 | 1 mark each part. (b): any correct method showing they are different. |
| 13 | $\frac{4}{6} > \frac{3}{6}$, so $\frac{2}{3} > \frac{1}{2}$ | 3 | 1 mark for each fraction rewritten (any common denominator); 1 mark for the sign. |
| 14 | $\frac{9}{10}$ ($\frac{1}{8} < \frac{1}{2} < \frac{9}{10}$) | 3 | 1 mark for each fraction compared with $\frac{1}{2}$ (e.g. 9 is more than half of 10); 1 mark for the answer. |
| 15 | $\frac{7}{8}, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}$ | 2 | 2 marks; 1 mark if one pair is swapped. |
| 16 | (a) $\frac{1}{4}$ and $\frac{3}{12}$ (b) $\frac{9}{10}$ (c) $\frac{1}{5}, \frac{3}{12}, \frac{1}{4}$ | 4 | (a) 2 marks: 1 for the pair, 1 for showing it (× 3 top and bottom). (b) 1 mark. (c) 1 mark: all of them, no others. |
| 17 | (a) Lina and Sami: $\frac{1}{4} = \frac{3}{12}$ (b) Huda: $\frac{1}{4} < \frac{1}{2} = \frac{2}{4}$ (c) less: $\frac{1}{4} < \frac{1}{2} = \frac{2}{4}$ | 7 | (a) 2 marks: 1 for the names, 1 for showing it. (b) 3 marks: 1 for a common denominator, 1 for both rewritten, 1 for the answer. (c) 2 marks: 1 for the answer, 1 for the reason. |
| 18 | (a) $\frac{2}{12}$ and $\frac{3}{12}$ (b) recipe B (c) Yes: $\frac{5}{12} > \frac{1}{6} = \frac{2}{12}$ (d) less | 6 | (a) 2 marks: 1 each (any common denominator). (b) 1 mark. (c) 2 marks: 1 for comparing, 1 for the answer. (d) 1 mark. |


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# What to revise

Circle the questions your child lost marks on, then go back to the matching part of the pack

| Questions | Skill | Revise in | ✓ / × |
|---|---|---|---|
| 1, 4 | Multiply top and bottom | Pack 1 · Equivalent Fractions, Part 2 | |
| 2, 3 | Missing numbers | Pack 1 · Equivalent Fractions, Part 3 | |
| 5, 12 | Equivalent or not? | Pack 1 · Equivalent Fractions, Part 4 | |
| 6, 7 | Same denominator or numerator | Pack 2 · Comparing Fractions, Part 1 | |
| 8, 14 | Using 1/2 as a benchmark | Pack 2 · Comparing Fractions, Part 3 | |
| 9, 13 | Common denominators | Pack 2 · Comparing Fractions, Part 2 | |
| 10, 15 | Ordering fractions | Pack 2 · Comparing Fractions, Part 4 | |
| 11 | Fraction models | Pack 1 · Equivalent Fractions, Part 1 | |
| 16 | Equivalent or not? | Pack 1 · Equivalent Fractions, Part 4 and Pack 2 · Comparing Fractions, Part 3 | |
| 17 | Equivalent fractions in context | Pack 1 · Equivalent Fractions, Parts 2 and 4 and Pack 2 · Comparing Fractions, Parts 2 and 3 | |
| 18 | Comparing fractions in context | Pack 2 · Comparing Fractions, Parts 2 and 3 | |


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