Steady Steps Maths

FREE UNIT TEST · TOPIC 7

FREE SAMPLE · UNIT TEST A

Dividing with Unit Fractions

Unit Test A · 40 marks · about 40 minutes

GRADE 5



Common Core 5.NF.B.7a–c

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Name _____ Date _____

UNIT TEST A Dividing with Unit Fractions

40 marks · about 40 minutes · Common Core 5.NF.B.7

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 Work out $\frac{1}{4} \div 6$. [1]

Answer

2 Work out $\frac{1}{4} \div 4$. [1]

Answer

3 Work out $5 \div \frac{1}{2}$. [1]

Answer

4 Work out $8 \div \frac{1}{6}$. [1]

Answer

5 $\frac{1}{5} \div 5 = \frac{1}{25}$. Write the multiplication that checks this. [1]

Answer

6 $7 \div \frac{1}{8} = 56$. Write the multiplication that checks this. [1]

Answer

7 How many $\frac{1}{4}$-cup scoops of sugar are in 4 cups? [1]

Answer

8 $\frac{1}{3}$ litre of lemonade is shared equally between 3 children. How much does each child get? [1]

Answer

9 Find the missing number: $\square \div \frac{1}{5} = 30$ [1]

Answer

10 Find the missing number: $\frac{1}{5} \div \square = \frac{1}{15}$ [1]

Answer

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SECTION B Show your working

Marks are given for your method

11 $\frac{1}{4}$ kg of cheese is shared equally into 3 boxes. How much is in each? Show your working. [2]

Answer

12 Draw a picture (for example, fraction strips) to show $3 \div \frac{1}{4}$. Then write the answer. [3]

Answer

13 Zoe says $\frac{1}{2} \div 5 = 2\frac{1}{2}$. [3]
(a) What has she done? (b) Why can her answer not be right? (c) Write the correct answer.

Answer

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14 (a) Work out $\frac{1}{7} \div 4$. (b) Work out $4 \div \frac{1}{7}$. (c) Explain why one answer is so much bigger than the other. [3]

Answer

15 A plank is 4 m long. How many pieces $\frac{1}{2}$ m long can be cut from it? [2]

Answer

16 (a) Write a short story problem that could be solved with $3 \div \frac{1}{2}$. (b) Solve it, and check your answer by multiplying. [4]

Answer

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SECTION C Problem solving

Longer questions with several steps

17 For a party, Sara has 5 litres of lemonade. Each cup holds $\frac{1}{4}$ litre. [7]
(a) How many cups can she fill? (b) Check your answer by multiplying.
(c) Another jug holds $\frac{1}{2}$ litre of juice. She shares it equally between 3 children. How much does each child get?
(d) Check your answer to (c) by multiplying.

Answer

18 Omar has 3 m of ribbon. He cuts it into pieces $\frac{1}{5}$ m long. [6]
(a) How many pieces does he get?
(b) He cuts one piece into 4 equal bits. How long is each bit? (c) How many of these bits could he cut from the whole 3 m?

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.

Q	Answer	Marks	How to award the marks
1	$\frac{1}{24}$	1	
2	$\frac{1}{16}$	1	
3	10	1	
4	48	1	
5	$\frac{1}{25} \times 5 = \frac{1}{5}$	1	
6	$56 \times \frac{1}{8} = 7$	1	
7	16	1	
8	$\frac{1}{9}$ litre	1	
9	6	1	
10	3	1	
11	$\frac{1}{12}$ kg	2	1 mark for $\frac{1}{4} \div 3$; 1 mark for the answer.
12	12 (each whole has 4 parts, and 3 × 4 = 12)	3	1 mark for 3 wholes; 1 mark for splitting each into 4 equal parts; 1 mark for the answer.
13	(a) She multiplied by 5 instead of dividing. (b) Sharing $\frac{1}{2}$ into 5 parts must give less than $\frac{1}{2}$. (c) $\frac{1}{10}$	3	1 mark each part.
14	(a) $\frac{1}{28}$ (b) 28 (c) (a) shares a small piece into 4 parts; (b) counts how many $\frac{1}{7}$s fit into 4 wholes.	3	1 mark each part.
15	8 pieces	2	1 mark for $4 \div \frac{1}{2}$; 1 mark for the answer.
16	(a) e.g. "How many $\frac{1}{2}$-hour lessons fit into 3 hours?" (b) 6; $6 \times \frac{1}{2} = 3$	4	(a) 2 marks: the story must ask how many $\frac{1}{2}$s fit into 3. (b) 1 mark for the answer, 1 mark for the check.
17	(a) 20 cups (b) $20 \times \frac{1}{4} = 5$ (c) $\frac{1}{6}$ litre (d) $\frac{1}{6} \times 3 = \frac{1}{2}$	7	(a) 2 marks: 1 for $5 \div \frac{1}{4}$. (b) 1 mark. (c) 3 marks: 1 for the division, 1 for a picture or method, 1 for the answer. (d) 1 mark.
18	(a) 15 pieces (b) $\frac{1}{20}$ m (c) 60	6	(a) 2 marks. (b) 2 marks: 1 for $\frac{1}{5} \div 4$. (c) 2 marks: 1 for a correct method (e.g. 15 × 4).

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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, 2, 10	Unit fraction ÷ whole number	Pack 1 · Unit Fraction ÷ Whole Number, Part 2	
3, 4, 9	Whole number ÷ unit fraction	Pack 2 · Whole Number ÷ Unit Fraction, Part 2	
5	Check by multiplying	Pack 1 · Unit Fraction ÷ Whole Number, Part 3	
6	Check by multiplying	Pack 2 · Whole Number ÷ Unit Fraction, Part 3	
7, 15	How many fit?	Pack 2 · Whole Number ÷ Unit Fraction, Part 4	
8, 11	Sharing problems	Pack 1 · Unit Fraction ÷ Whole Number, Part 4	
12	Using pictures	Pack 2 · Whole Number ÷ Unit Fraction, Part 1	
13	Unit fraction ÷ whole number	Pack 1 · Unit Fraction ÷ Whole Number, Parts 1 and 2	
14	Comparing the two kinds of division	Pack 1 · Unit Fraction ÷ Whole Number, Part 2 and Pack 2 · Whole Number ÷ Unit Fraction, Part 2	
16	How many fit?	Pack 2 · Whole Number ÷ Unit Fraction, Parts 3 and 4	
17	Dividing with unit fractions in context	Pack 2 · Whole Number ÷ Unit Fraction, Parts 3 and 4 and Pack 1 · Unit Fraction ÷ Whole Number, Parts 3 and 4	
18	Dividing with unit fractions	Pack 2 · Whole Number ÷ Unit Fraction, Part 4 and Pack 1 · Unit Fraction ÷ Whole Number, Part 2	

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