Steady Steps Maths

FREE UNIT TEST · TOPIC 6

FREE SAMPLE · UNIT TEST A

Multiplying Fractions

Unit Test A · 40 marks · about 40 minutes

GRADE 5



Common Core 5.NF.B.3–6

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Name _____ Date _____

UNIT TEST A

Multiplying Fractions

40 marks · about 40 minutes · Common Core 5.NF.B.3–6

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 2 ÷ 7 as a fraction. [1]

Answer

2. 17 ÷ 9 lies between which two whole numbers? [1]

Answer

3. 7 friends share 6 cakes equally. How much does each friend get? [1]

Answer

4. What is $\frac{1}{9}$ of 63? [1]

Answer

5. Work out $\frac{3}{5} \times 35$. [1]

Answer

6. Work out $\frac{3}{4} \times 6$. Give your answer as a mixed number. [1]

Answer

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

Answer

8. A rectangle is $\frac{2}{3}$ m long and $\frac{1}{3}$ m wide. What is its area? [1]

Answer

9. Without working it out: is $\frac{5}{6} \times 80$ greater than, less than or equal to 80? [1]

Answer

10. Without working it out: is $1\frac{1}{6} \times 68$ greater than, less than or equal to 68? [1]

Answer

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SECTION B Show your working

Marks are given for your method

11 A ribbon is 15 m long. Nadia uses $\frac{2}{5}$ of it. How many metres does she use? [2]

Answer

12 Work out $3\frac{1}{2} \times 1\frac{4}{5}$. Show your working. [3]

Answer

13 Without working them out, write these in order from smallest to largest, and explain how you know: [3]

$1\frac{1}{2} \times 24$, 24, $\frac{3}{4} \times 24$

Answer

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14 Leo says $\frac{1}{5} \times 15 = 1/75$. [3]
(a) Explain his mistake. (b) Work out the correct answer.

Answer

15 Find the missing numbers, then explain why the two fractions are equal. [2]
$\frac{2}{3} \times \square/\square = 10/15$

Answer

16 A rug is $2\frac{1}{4}$ m long and $2\frac{2}{3}$ m wide. Find its area. Show your working. [4]

Answer

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SECTION C Problem solving

Longer questions with several steps

17 2 kg of rice is shared equally between 6 families. [7]

(a) How much rice does each family get? Write it as a fraction. (b) Is that more or less than 1 kg? How do you know?

(c) One family cooks $\frac{3}{4}$ of its share. How much rice is that? (d) How much rice does that family have left?

Answer

18 A field is 30 m long and 16 m wide. A vegetable patch is $\frac{2}{3}$ of the length of the field and $\frac{3}{4}$ of its width. [6]

(a) How long and how wide is the patch? (b) Find the area of the field and the area of the patch.

(c) What fraction of the field's area is the patch? Check it with $\frac{2}{3} \times \frac{3}{4}$.

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	$\frac{2}{7}$	1	
2	1 and 2	1	
3	$\frac{6}{7}$ of a cake	1	
4	7	1	
5	21	1	
6	$4\frac{1}{2}$	1	
7	$\frac{1}{8}$	1	Simplest form.
8	$\frac{2}{9}$ m²	1	
9	less than 80	1	Multiplying by a fraction less than 1.
10	greater than 68	1	Multiplying by a number greater than 1.
11	6 m	2	1 mark for $\frac{2}{5} \times 15$ (or $15 \div 5 \times 2$); 1 mark for the answer.
12	$6\frac{3}{10}$	3	1 mark for improper fractions ($7/2 \times 9/5$); 1 mark for multiplying; 1 mark for the answer in simplest form.
13	$\frac{3}{4} \times 24$, 24, $1\frac{1}{2} \times 24$ (× less than 1 makes it smaller; × more than 1 makes it bigger)	3	1 mark for the order; 2 marks for the explanation (1 for each comparison).
14	(a) He multiplied the denominator by 15; he should multiply the numerator (or find $\frac{1}{5}$ of 15). (b) 3	3	(a) 1 mark. (b) 2 marks: 1 for a correct method.
15	5/5; 5/5 = 1 and multiplying by 1 does not change the value	2	1 mark for 5/5; 1 mark for the reason.
16	6 m²	4	1 mark for area = length × width; 1 mark for improper fractions or an area model; 1 mark for multiplying; 1 mark for the answer with units.
17	(a) $\frac{1}{3}$ kg (b) less, because 2 < 6 (c) $\frac{1}{4}$ kg (d) $\frac{1}{12}$ kg	7	(a) 2 marks: 1 for $2 \div 6$. (b) 1 mark. (c) 2 marks: 1 for multiplying. (d) 2 marks: 1 for subtracting.
18	(a) 20 m by 12 m (b) field 480 m², patch 240 m² (c) $\frac{1}{2}$, and $\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$	6	(a) 2 marks. (b) 2 marks. (c) 2 marks: 1 for the fraction, 1 for the check.

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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	Division as a fraction	Pack 1 · Fractions as Division, Part 1	
2	Between which whole numbers?	Pack 1 · Fractions as Division, Part 2	
3	Sharing problems	Pack 1 · Fractions as Division, Part 3	
4	Unit fraction of a number	Pack 2 · Fraction × Whole Number, Part 1	
5, 14	Fraction of a number	Pack 2 · Fraction × Whole Number, Part 2	
6	Answers that are fractions	Pack 2 · Fraction × Whole Number, Part 3	
7	Multiplying fractions	Pack 3 · Fraction × Fraction & Area, Part 2	
8	Area of rectangles	Pack 3 · Fraction × Fraction & Area, Part 3	
9, 10	Bigger, smaller or the same?	Pack 4 · Multiplication as Scaling, Part 1	
11	Story problems	Pack 2 · Fraction × Whole Number, Part 4	
12	Mixed numbers	Pack 3 · Fraction × Fraction & Area, Part 4	
13	Ordering without calculating	Pack 4 · Multiplication as Scaling, Part 2	
15	Equivalent fractions: × 1	Pack 4 · Multiplication as Scaling, Part 3	
16	Area of rectangles	Pack 3 · Fraction × Fraction & Area, Parts 3 and 4	
17	Fractions as division and multiplying	Pack 1 · Fractions as Division, Part 3 and Pack 3 · Fraction × Fraction & Area, Part 2	
18	Fraction × whole number and area	Pack 2 · Fraction × Whole Number, Part 2 and Pack 3 · Fraction × Fraction & Area, Parts 1 and 3	

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