Steady Steps Maths

FREE UNIT TEST · TOPIC 7

FREE SAMPLE · UNIT TEST A

Multiplying Fractions by Whole Numbers

Unit Test A · 40 marks · about 40 minutes

GRADE 4



Common Core 4.NF.B.4a–c

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Name _____ Date _____

UNIT TEST A Multiplying Fractions by Whole Numbers

40 marks · about 40 minutes · Common Core 4.NF.B.4a–c

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 Complete: $\frac{4}{5} = \square \times \frac{1}{5}$ [1]

Answer

2 Work out $12 \times \frac{1}{5}$. Give a mixed number. [1]

Answer

3 Each strip is 1 whole. Write the shaded amount as a multiple of $\frac{1}{6}$. [1]



Answer

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

Answer

5 Work out $5 \times \frac{2}{3}$. Give a mixed number. [1]

Answer

6 Complete: $5 \times \frac{3}{4} = \square \times \frac{1}{4}$ [1]

Answer

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

Answer

8 Find the missing number: $3 \times \frac{\square}{8} = \frac{18}{8}$ [1]

Answer

9 Between which two whole numbers is $3 \times \frac{4}{10}$? [1]

Answer

10 A jug holds $\frac{9}{10}$ litre of juice. How much juice is in 3 jugs? [1]

Answer

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SECTION B Show your working

Marks are given for your method

11 Write $3 \times \frac{2}{6}$ as an addition, then work it out. [2]

Answer

12 A small bag of rice weighs $\frac{5}{8}$ kg. Karim buys 6 bags. Is that more or less than 4 kg? Show how you know. [3]

Answer

13 Sara says $3 \times \frac{3}{4} = \frac{9}{12}$. [3]
(a) What mistake did Sara make? (b) Work out the correct answer as a mixed number.

Answer

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14 Yusuf uses $\frac{3}{5}$ kg of flour for each loaf of bread. Yusuf bakes 3 loaves on Saturday and 3 loaves on Sunday. How much flour is that altogether? [3]

Answer

15 Between which two whole numbers is $7 \times \frac{2}{6}$? Explain how you know. [2]

Answer

16 Find the missing numbers. [4]

(a) $4 \times \frac{2}{5} = \frac{\square}{5}$ (b) $\square \times \frac{4}{10} = \frac{12}{10}$

(c) $\frac{10}{8} = \square \times \frac{1}{8}$ (d) $5 \times \frac{3}{\square} = \frac{15}{10}$

Answer

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SECTION C Problem solving

Longer questions with several steps

17 Maya gives each plant $2/4$ litre of water. There are 5 plants in the garden. [7]

(a) How much water does Maya need for all 5 plants? Write the answer as a mixed number.

(b) Between which two whole numbers of litres is your answer?

(c) Maya's watering can holds 2 litres. Is one full can enough for all the plants? Explain.

(d) Maya plants 2 more plants. How much water does Maya need now?

Answer

18 Rami runs $3/8$ km every day for 3 days. Lina runs $5/8$ km every day for 5 days. [6]

(a) How far does Rami run altogether? (b) How far does Lina run altogether?

(c) Who runs further, and by how much?

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	4	1	
2	$^{12}/_{5} = 2^{2}/_{5}$	1	
3	$^{8}/_{6} = 8 \times {}^{1}/_{6}$	1	
4	$^{4}/_{8}$ ($^{1}/_{2}$ also accepted)	1	
5	$^{10}/_{3} = 3^{1}/_{3}$	1	
6	15	1	
7	4	1	
8	6	1	
9	1 and 2 ($^{12}/_{10} = 1^{2}/_{10}$)	1	
10	$^{27}/_{10} = 2^{7}/_{10}$ litres	1	
11	$^{2}/_{6} + {}^{2}/_{6} + {}^{2}/_{6} = {}^{6}/_{6} = 1$	2	1 mark for the repeated addition; 1 mark for the answer.
12	$6 \times {}^{5}/_{8} = {}^{30}/_{8} = 3^{6}/_{8}$ kg, so less than 4 kg	3	1 mark for $6 \times {}^{5}/_{8} = {}^{30}/_{8}$; 1 mark for the mixed number; 1 mark for the correct decision.
13	(a) multiplied the denominator too (only the numerator is multiplied) (b) $^{9}/_{4} = 2^{1}/_{4}$	3	(a) 1 mark. (b) 2 marks: 1 for multiplying only the numerator, 1 for the mixed number.
14	$6 \times {}^{3}/_{5} = {}^{18}/_{5} = 3^{3}/_{5}$ kg	3	1 mark for 6 loaves (or working out each day); 1 mark for multiplying; 1 mark for the answer.
15	2 and 3: $7 \times {}^{2}/_{6} = {}^{14}/_{6} = 2^{2}/_{6}$ ($2^{1}/_{3}$ also accepted)	2	1 mark for $^{14}/_{6}$ (or the mixed number); 1 mark for 2 and 3.
16	(a) 8 (b) 3 (c) 10 (d) 10	4	1 mark each.
17	(a) $^{10}/_{4} = 2^{2}/_{4}$ litres ($2^{1}/_{2}$ litres also accepted) (b) 2 and 3 (c) No: $2^{2}/_{4} > 2$ (d) $7 \times {}^{2}/_{4} = {}^{14}/_{4} = 3^{2}/_{4}$ litres ($3^{1}/_{2}$ litres also accepted)	7	(a) 2 marks: 1 for multiplying, 1 for the mixed number. (b) 1 mark. (c) 2 marks: 1 for the answer, 1 for the reason. (d) 2 marks: 1 for the method, 1 for the answer.
18	(a) $^{9}/_{8} = 1^{1}/_{8}$ km (b) $^{25}/_{8} = 3^{1}/_{8}$ km (c) Lina, by 2 km	6	(a) 2 marks: 1 for multiplying, 1 for the answer. (b) 2 marks: 1 for multiplying, 1 for the answer. (c) 2 marks: 1 for the name, 1 for the difference.

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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	Fractions as multiples of 1/b	Pack 1 · Fractions as Multiples, Part 1	
3	Pictures of multiples	Pack 1 · Fractions as Multiples, Part 2	
4, 5, 6, 11, 13	Whole number × fraction	Pack 1 · Fractions as Multiples, Part 3	
7, 8	Missing numbers	Pack 1 · Fractions as Multiples, Part 4	
9, 15	Between which whole numbers?	Pack 2 · Fraction × Whole Number Problems, Part 2	
10	Word problems	Pack 2 · Fraction × Whole Number Problems, Part 1	
12	Measurement problems	Pack 2 · Fraction × Whole Number Problems, Part 3	
14	Two-step problems	Pack 2 · Fraction × Whole Number Problems, Part 4	
16	Missing numbers	Pack 1 · Fractions as Multiples, Parts 1 and 4	
17	Fraction × whole number in context	Pack 2 · Fraction × Whole Number Problems, Parts 1 to 4	
18	Comparing and two-step problems	Pack 2 · Fraction × Whole Number Problems, Parts 1 and 4	

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