Name:

Maths Assessment Year 6: Multiplication and Division

This assessment section is in two parts.

Section A (question 1) involves your teacher reading out questions for you to calculate mentally, with no formal working out.

Section B (questions 2-8) is for you to complete independently.

Section A

1. Perform mental calculations, including with mixed operations and large numbers.

Section B

2. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
3. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
4. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.
5. Identify common factors, common multiples and prime numbers.
6. Use knowledge of the order of operations to carry out calculations involving the four operations.
7. Solve problems involving addition, subtraction, multiplication and division.
8. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Name: Date:

55 total marks

Maths Assessment Year 6: Multiplication and Division

Section A

1. Perform mental calculations, including with mixed operations and large numbers.

Answer the questions your teacher reads out and write the answers in the spaces below.

a)	b)
c)	d)
e)	f)
g)	h)
i)	j)

10 marks

Section B

2. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.

Use a **written method** to find the answer to these calculations:

Show your working out.

3 x 6381	74 x 925

4 marks

Total for this page

3. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

a) Use **long division** to find the answer to these calculations:

Show your working out.

261 ÷ 4	992 ÷ 22

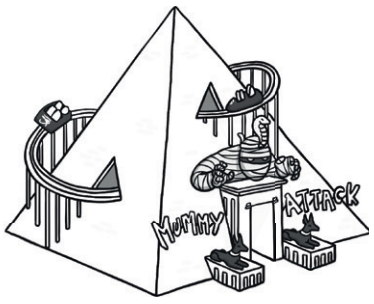
4 marks

b) Find the answer to this calculation. **Show the remainder as a fraction.**

256 ÷ 6 =

2 marks

c) At the funfair, a children's train ride can hold a maximum of 8 passengers. How many times will the train have to go around the track so that 35 children can have a ride?



1 mark

d) At a stationery factory, pencils are packed into boxes of 12. There are 530 pencils left. How many boxes can be filled?

1 mark

Total for this page

e) How many 7s are there in 387? **Round your answer to the nearest whole number.**

1 mark

4. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.

a) Use short division to calculate the answers to these. Show your working out.

415 ÷ 5	630 ÷ 14

4 marks

b) A builder needs to calculate the number of bricks needed to build a wall. The wall measures 5m 31cm and each brick measures 16cm. How many bricks are needed to build one layer of the wall?

1 mark

5. Identify common factors, common multiples and prime numbers.

a) Put these numbers in the correct places in this sorting diagram:

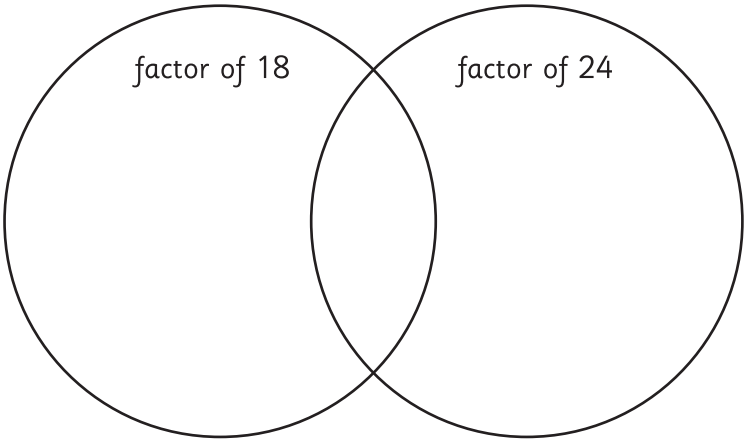
12

2

6

9

3



1 mark

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b) Identify the common factors of 15 and 30:

.....

1 mark

c) Circle all the numbers that are multiples of both 3 and 7:

35 42 21 14 54

1 mark

d) List all the numbers up to 40 that are multiples of both 4 and 6:

.....

1 mark

e) Circle the prime numbers:

97 70 65 47 19 99

1 mark

f) Identify the prime numbers between 20 and 40:

.....

1 mark

6. Use knowledge of the order of operations to carry out calculations involving the four operations.

a) Draw a line to match the following calculations to their correct answer:

14 + (13 – 5)	3
30 ÷ (5 x 2)	10
(6 + 7) x 3	22
12 + 15 - 8	39
30 ÷ (6 ÷ 2)	19

5 marks

b) Find the answer to this calculation:

21 - 8 x 2

.....

1 mark

c) Circle the correct answer to this calculation:

4^2 x (4 - 2)

32 62 16

1 mark

Total for this page

d) Find the answer to this calculation:

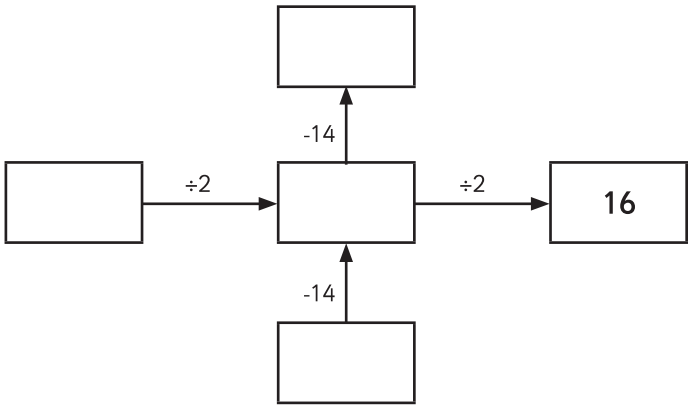
$20 + 3^2$

.....

1 mark

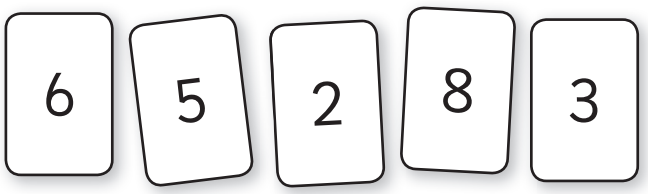
7. Solve problems involving addition, subtraction, multiplication and division.

a) Fill in the missing numbers in the diagrams below:



2 marks

b) Peter uses three of these number cards to make this calculation correct.

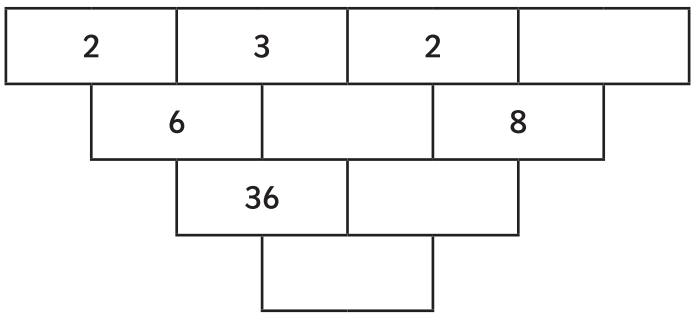


Which cards does he use?

☐ x ☐ x ☐ = 120

2 marks

c) Fill in the missing numbers:



2 marks

Total for this page

d) Complete this Magic Square, so that each vertical, horizontal and diagonal set of numbers has the total of 15:

The magic square can only contain each number from 1-9 once.

4		8
9		
	7	6

2 marks

8. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

a) Freya is training for a running race, and runs 9 kilometres every day for 31 days. She uses rounding to work out approximately how far she will run in total.

Circle the most sensible answer:

200 kilometres 100 kilometres 300 kilometres 400 kilometres

1 mark

b) A company makes playground equipment. To make one swing, they use 4.7 metres of rope. Use rounding to calculate roughly how much rope is needed to make 48 swings.

Show your working out.

metres

2 marks

c) A café sells orange juice in glasses that hold about 475ml. How many 1 litre cartons of juice are needed to fill 9 glasses?

Show your working out.

cartons

2 marks

Total for this page

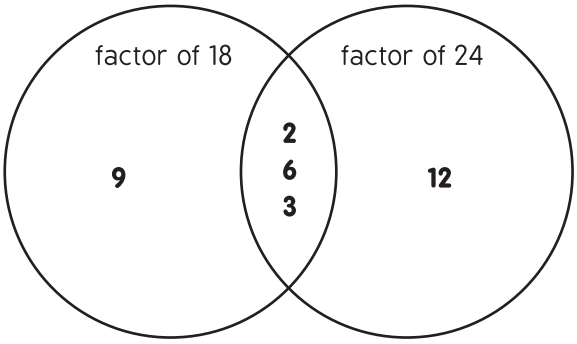
Teacher Script and Answer Sheet: Maths Assessment Year 6:
Multiplication and Division

Section A (Q1) : Involves the teacher reading out questions for children to calculate mentally, with no written working out.

question	script	marks	answer
1. Perform mental calculations, including with mixed operations and large numbers.			
Read these questions to the class:			
a	Calculate the answer to 599 subtract 31	1	568
b	What is the sum of 264 and 122?	1	386
c	Double 381.	1	762
d	Calculate 51 multiplied by 8.	1	408
e	Divide 99 by 9 and then add 13 to your answer.	1	24
f	How many eights are there in 816?	1	102
g	What is 24 less than 1789?	1	1765
h	Multiply 20 by 14.	1	280
i	Multiply 6 by 8 and then subtract 11.	1	37
j	What is the remainder when you divide 418 by 10?	1	8

Section B (Q2-8) : Is for children to complete independently.

question	answer	marks	notes
2. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.			
	3 x 6381 = 19 143 74 x 925 = 68 450	4	Award two marks for each correct answer. If an answer is incorrect, award one mark for each correct use of long multiplication.
3. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.			
a	261 ÷ 4 = 65 r 1 992 ÷ 22 = 45 r 2	4	Award two marks for each correct answer. If an answer is incorrect, award one mark for each correct use long division.

question	answer	marks	notes
b	256 ÷ 6 = 42 4/6 or 42 2/3	2	
c	5 times	1	
d	44 boxes of pencils	1	
e	55	1	
4. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.			
a	415 ÷ 5 = 83 630 ÷ 14 = 45	4	Award two marks for each correct answer. If an answer is incorrect, award one mark for each correct use short division.
b	34 bricks	1	
5. Identify common factors, common multiples and prime numbers.			
a		1	Award one mark for all 5 numbers correctly placed.
b	1, 3, 5 and 15	1	Award one mark for all numbers identified.
c	35 (42) (21) 14 54	1	Award one mark for all numbers correctly identified.
d	12, 24, 36	1	
e	(97) 70 65 (47) (19) 99	1	
f	23, 29, 31, 37	1	

question	answer	marks	notes
6. Use knowledge of the order of operations to carry out calculations involving the four operations.			
a	14 + (13 – 5) → 22 30 ÷ (5 x 2) → 3 (6 + 7) x 3 → 39 12 + 15 - 8 → 19 30 ÷ (6 ÷ 2) → 10	5	Award one mark for each calculation and answer correctly matched.
b	5	1	
c	**32** 62 16	1	
d	29	1	
7. Solve problems involving addition, subtraction, multiplication and division.			
a	**18** -14 **64** ÷2 **32** ÷2 16 -14 **46**	2	Award two marks for all boxes correctly completed. Award one mark for 2 or 3 boxes
b	**5** x **8** x **3** = 120	2	Award two marks for all boxes correctly filled. Numbers can be in any order.
c	2 3 2 **4** 6 **6** 8 36 **48** **1728**	2	Award two marks for all boxes correctly completed. Award one mark for 2 or 3 boxes correctly completed.
d	4 **3** 8 9 **5** **1** **2** 7 6	2	Award two marks for all boxes correctly completed.

question	answer	marks	notes
8. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.			
a	200 kilometres 100 kilometres (300 kilometres) 400 kilometres	1	
b	5 x 500 or 500 x 5 = **250 metres**	2	Award one mark for a correct calculation of 5 x 50 in any order), and one mark for an answer of 250 metres.
c	500 x 10 or 10 x 500 = 5000 **5** cartons	2	Award 2 marks for a correct answer of 5 cartons. Award one mark for a correct calculation (in any order).
		Total 55	