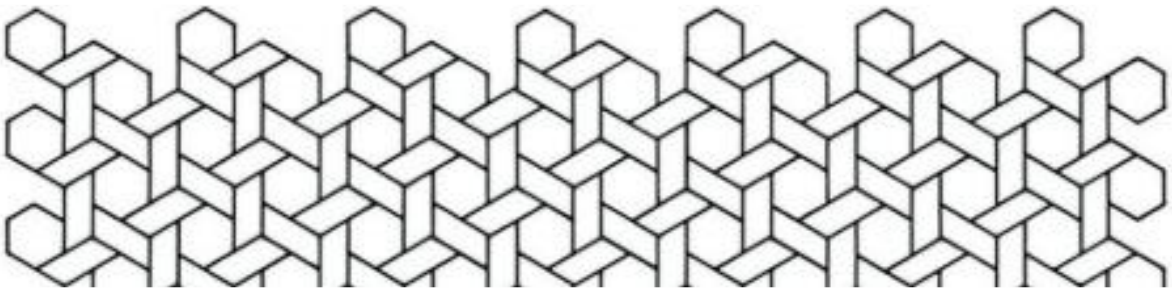
G9 Multiplication facts and methods Numeracy #1

Use any non-calculator method to complete these multiplications:

1. 35×5	**2.** 32×7	**3.** 38×9
4. 35×35	**5.** 32×27	**6.** 38×79



Multiply by 4: Use the technique $a \times 4 = a \times 2 \times 2$ or 'double and double again'

To multiply by 4 (double and double again).

1.	21	×	4	=
2.	14	×	4	=
3.	35	×	4	=
4.	50	×	4	=
5.	310	×	4	=
6.	4.5	×	4	=

To divide by4: (half, then half again)

7.	180	÷	4	=
8.	600	÷	4	=
9.	80	÷	4	=
10.	10	÷	4	=
11.	88	÷	4	=
12.	1000	÷	4	=

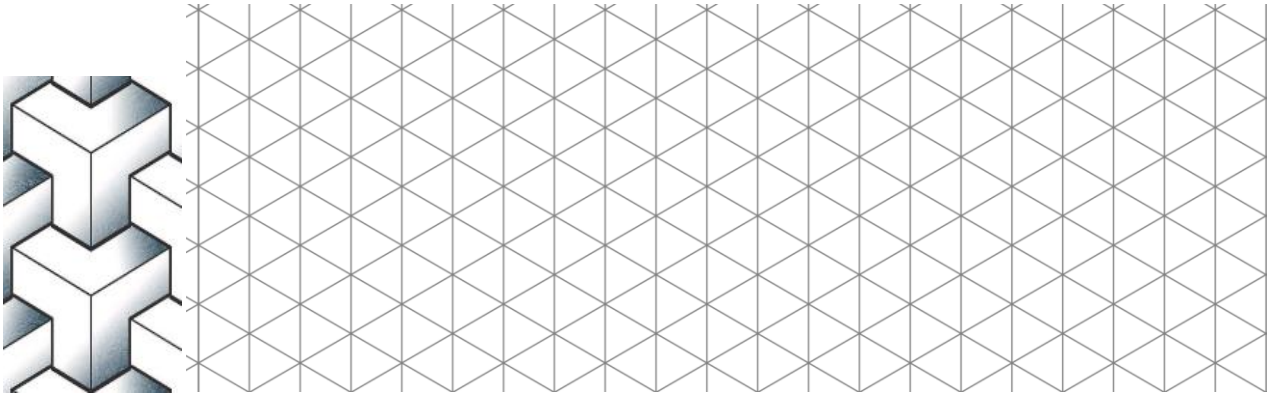
Complete the heading row and column of this multiplication table using each of the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10. 11, 12, 15,20 once only.

	80											
		40										
			16									
				40								
	16	32	8	80	40	20	24	60	36	44	48	12	28
						30							
							18						
								135					
									135				
										110			
											84		
												33	
													84

G9 Multiplication facts and methods Numeracy #2

Use any non-calculator method to complete these multiplications:

1. 47×5	**2.** 59×7	**3.** 22×9
4. 47×35	**5.** 59×27	**6.** 22×69



Multiply by 5: Use the technique $a \times 5 = a \times 10 \div 2$ or 'times 10 then half'

To multiply by 5 (times 10 then half).

1.	21	×	5	=
2.	14	×	5	=
3.	35	×	5	=
4.	50	×	5	=
5.	310	×	5	=
6.	4.5	×	5	=

To divide by 5: (divide by 10 then times 2)

7.	180	÷	5	=
8.	600	÷	5	=
9.	80	÷	5	=
10.	10	÷	5	=
11.	88	÷	5	=
12.	1000	÷	5	=

Complete the heading row and column of this multiplication table using each of the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 20 once only on the heading row and on the heading column.

	45											
		36										
			18									
				160								
	105	42	63	140	14	56	28	21	49	77	84	70	35
						160							
							20						
								33					
									105				
										132			
											48		
												100	
													45

G9 Multiplication facts and methods Numeracy #3:

Division Method

To divide by 5:

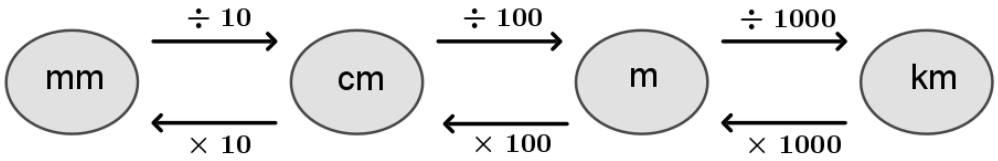
1.	170	÷	5	=		7.	65	÷	5	=	
2.	30	÷	5	=		8.	115	÷	5	=	
3.	120	÷	5	=		9.	90	÷	5	=	
4.	280	÷	5	=		10.	75	÷	5	=	
5.	300	÷	5	=		11.	45	÷	5	=	
6.	290	÷	5	=		12.	20	÷	5	=	

Split a Number Using a Ratio

- Add the parts of the ratio.
- Divide the number by the total parts.
- Multiply the ratio.
- Check your answer by adding the parts.

(a) Share $20 in the ratio 2:3 (c) Divide $24 in the ratio 1:3 (e) Divide 55g in the ratio 3:2 (g) Share £210 in the ratio 2:5 (i) Share 350m in the ratio 3:7	(a) (c) (e) (g) (i)

Reading a map/blueprint scale with a 1:n scale



- Multiply by n
- Keep the unit
- Convert the unit

Scale	On the drawing	On the ground (same unit)	On the ground in meters
1:1000	3 cm		
1:1000	5 cm		
1:1000	8 mm		
1:1000	23 mm		
1:1000	23 cm		

Using a Division Algorithm

(a) $236 \div 2$ (b) $156 \div 3$ (c) $108 \div 4$ (d) $235 \div 5$

G9 Multiplication facts and methods Numeracy #4:

Mental arithmetic Division Methods

To divide by 4 (half and half again).

1.	60	÷	4	=
2.	104	÷	4	=
3.	8	÷	4	=
4.	80	÷	4	=
5.	24	÷	4	=
6.	28	÷	4	=

To divide by 5: (divide by 10 then double):

7.	140	÷	5	=
8.	170	÷	5	=
9.	105	÷	5	=
10.	140	÷	5	=
11.	50	÷	5	=
12.	85	÷	5	=

Simplify a ratio:

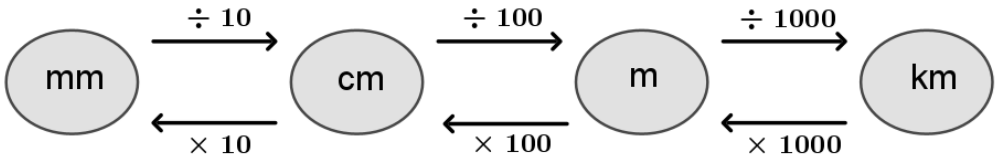
(a) 28:24 (b) 140:105 (c) 36:39 (d) 21:301	

Split a Number Using a Ratio

- Add the parts of the ratio.
- Divide the number by the total parts.
- Multiply the ratio.
- Check your answer by adding the parts.

(b) Share 15cm in the ratio 1:2 (d) Share 35 sweets in the ratio 4:3 (f) Divide 54kg in the ratio 1:5 (h) Share 120 hours in the ratio 5:7 (j) Divide 360° in the ratio 1:4	

Reading a map/blueprint scale with a 1:n scale



- Multiply by n
- Keep the unit
- Convert the unit

Scale	On the drawing	On the ground (same unit)	On the ground in meters
1:10 000	3 cm		
1:2 000	5 cm		
1:1000 000	8 mm		

Using a Division Algorithm

(e) $3360 \div 7$ (f) $4902 \div 6$ (g) $7128 \div 9$ (h) $9020 \div 5$

G9 Multiplication facts and methods #5:

Mental arithmetic Division Methods

To divide by 4 (half and half again). To divide by 8 (half, half, and half again). To divide by 5: (divide by 10 then double):

1.	8	÷ 4	=		
2.	136	÷ 8	=		
3.	100	÷ 5	=		
4.	15	÷ 5	=		
5.	30	÷ 5	=		
6.	44	÷ 4	=		

7.	112	÷ 8	=		
8.	130	÷ 5	=		
9.	48	÷ 8	=		
10.	20	÷ 4	=		
11.	70	÷ 5	=		
12.	12	÷ 4	=		

Simplify a ratio:

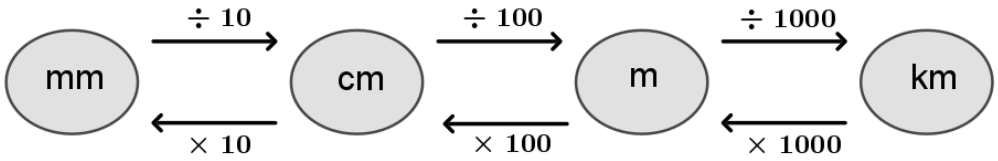
(a) 15:100 (b) 8:44 (c) 9:1017	

Split a Number Using a Ratio

- Add the parts of the ratio.
- Divide the number by the total parts.
- Multiply the ratio.
- Check your answer by adding the parts.

(b) Divide 63ml in the ratio 2:3:4 (d) Share 180° in the ratio 2:2:5	

Reading a map/blueprint scale with a 1:n scale



- Multiply by n
- Keep the unit
- Convert the unit

Scale	On the drawing	On the ground (same unit)	On the ground in meters
1:50 000	3 cm		
1:20 000	5 cm		
1:100 000	8 mm		

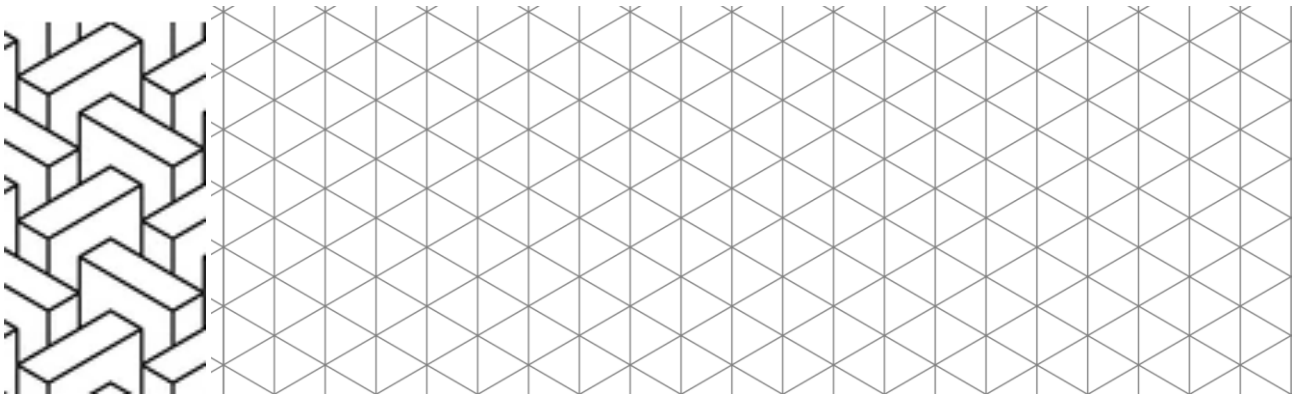
Using a Division Algorithm

(i) $8208 \div 8$ (j) $7500 \div 6$ (k) $15462 \div 3$ (l) $24353 \div 7$

G9 Multiplication facts and methods Numeracy #6 QUIZ **NAME:**

Use any non-calculator method to complete these multiplications:

1. 47×3	**2.** 59×4	**3.** 22×7
4. 47×45	**5.** 59×67	**6.** 22×39



Multiply by 5: Use the technique $a \times 5 = a \times 10 \div 2$ or 'times 10 then half'

To multiply by 4: double,double again

To multiply by 5: times 10 then half.

1.	21	×	4	=
2.	14	×	4	=
3.	35	×	4	=
4.	53	×	4	=
5.	31	×	5	=
6.	405	×	5	=
7.	620	×	5	=
8.	36	×	5	=

To divide by 4: Half, then half again

To divide by 5: divide by 10 then times 2

1.	180	÷	4	=
2.	600	÷	4	=
3.	80	÷	4	=
4.	10	÷	4	=
5.	80	÷	5	=
6.	400	÷	5	=
7.	360	÷	5	=
8	180	÷	5	=

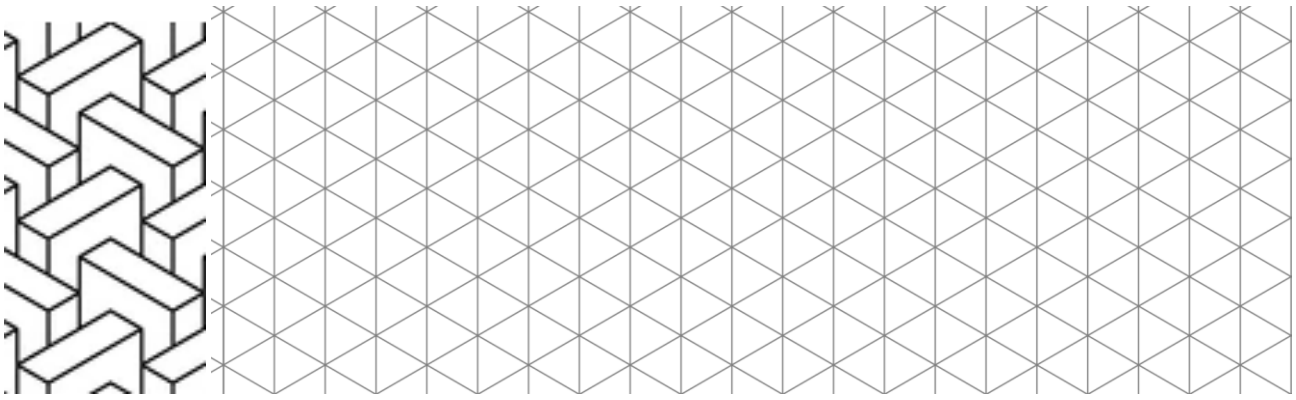
Complete the heading row and column of this multiplication table using each of the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 20 once only on the heading row and on the heading column.

	24											
		99										
			56									
				120								
	30	110	80	200	20	40	50	150	70	90	60	120	100
						80							
							25						
								165					
									28				
										18			
											90		
												36	
													120

G9 U3 Numeracy #6 QUIZ **NAME:**

Use any non-calculator method to complete these multiplications:

1. 47×3	**2.** 59×4	**3.** 22×7
4. 47×45	**5.** 59×67	**6.** 22×39



Multiply by 5: Use the technique $a \times 5 = a \times 10 \div 2$ or 'times 10 then half'

To multiply by 4: double,double again

To multiply by 5: times 10 then half.

1.	21	×	4	=
2.	14	×	4	=
3.	35	×	4	=
4.	53	×	4	=
5.	31	×	5	=
6.	405	×	5	=
7.	620	×	5	=
8.	36	×	5	=

To divide by 4: Half, then half again

To divide by 5: divide by 10 then times 2

1.	180	÷	4	=
2.	600	÷	4	=
3.	80	÷	4	=
4.	10	÷	4	=
5.	80	÷	5	=
6.	400	÷	5	=
7.	360	÷	5	=
8	180	÷	5	=

Complete the heading row and column of this multiplication table using each of the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 20 once only on the heading row and on the heading column.

	30											60
		105									14	
			108							99		
				16					8			
					140				100			
						80		160				
							45					
						150		300				
					77				55			
				24						12		
			144							132		
		90									12	
	12											24