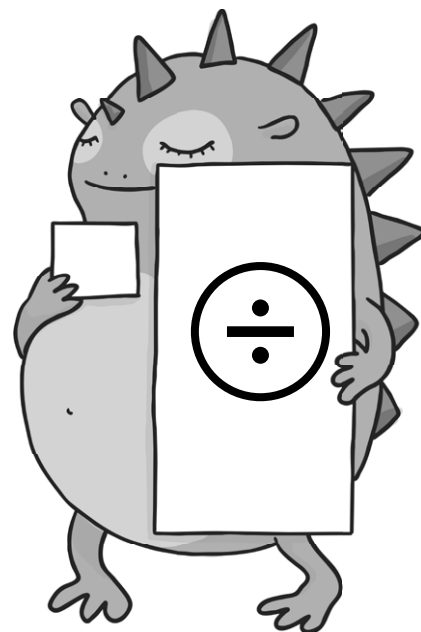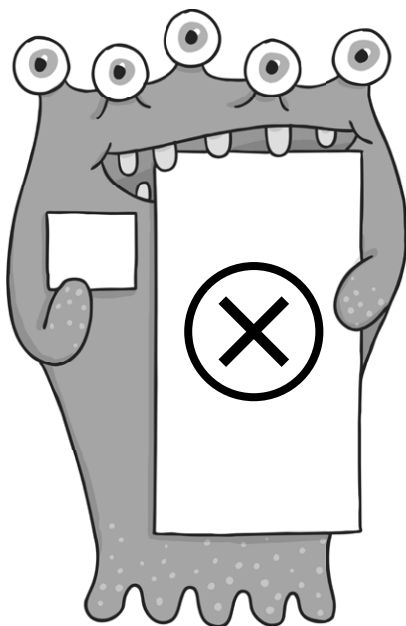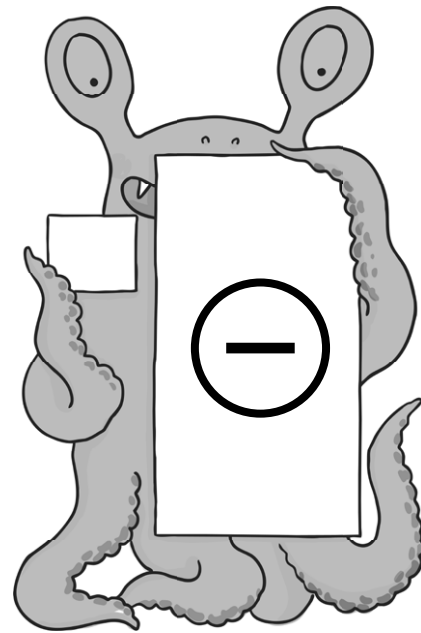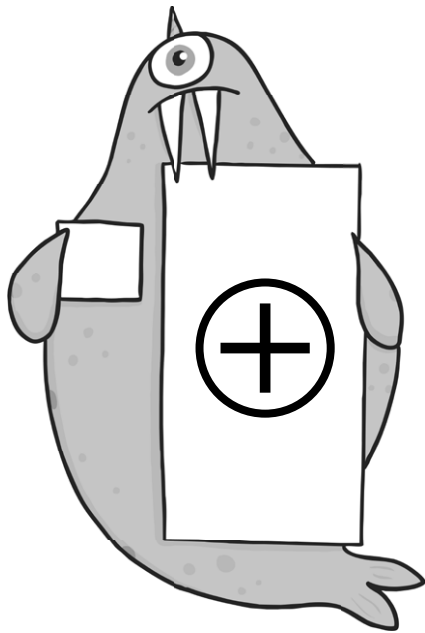# Year 6 Maths:
Addition, Subtraction, Multiplication and Division

Year 6 Maths:

Addition, Subtraction, Multiplication and Division

Year 6 Programme of Study – Addition, Subtraction, Multiplication and Division

Statutory Requirements	Worksheet	Page Number	Notes
multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Long Multiplication Practice 3 digits x 2 digits	3	
	Long Multiplication Practice 4 digits x 2 digits	4 - 5	
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	Long Division Practice Worksheet	6 - 8	
	Division Practice and Working with Remainders	9 - 10	
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	Short Division Practice Worksheet	11 - 12	
perform mental calculations, including with mixed operations and large numbers	Mental Maths – Addition	13 - 15	
	Mental Calculations Challenge 4 Operations	16 - 17	
identify common factors, common multiples and prime numbers	Find the common factors	18 - 19	
	Identifying Prime Numbers 1 – 200	20	
	Finding Common Multiples	21	
use their knowledge of the order of operations to carry out calculations involving the four operations	Using the Correct Order of Operations – Speed Challenge	22	
solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Banana Bob's Fruit and Veg Stall	23 - 24	
	Solving Multi Step Word Problems	25 - 27	

Long Multiplication Practice – 3 Digits x 2 Digits

1.

		1	6	1
x			2	3

2.

		2	3	2
x			2	6

3.

		6	1	4
x			1	8

4.

		9	6	9
x			9	5

5.

		7	4	0
x			9	6

6.

		3	6	2
x			5	8

7.

		3	0	5
x			7	1

8.

		3	7	0
x			6	4

9.

		5	8	4
x			1	5

10.

		8	5	1
x			8	9

11.

		7	4	9
x			9	8

12.

		4	8	2
x			2	3

13.

		6	4	6
x			1	0

14.

		7	0	9
x			1	7

15.

		9	1	4
x			5	7

16.

		7	1	8
x			4	5

Long Multiplication Practice – 4 Digits x 2 Digits

1.

		2	1	9	0
x				6	9

2.

		1	3	4	2
x				5	2

3.

		1	5	2	1
x				7	3

4.

		1	1	4	3
x				3	4

5.

		2	4	6	8
x				2	7

6.

		1	8	9	5
x				4	6

7.

		1	4	6	2
x				7	0

8.

		1	2	3	9
x				1	9

9.

		1	3	5	9
x				7	7

10.

		2	1	2	7
x				4	8

11.

		1	9	2	0
x				1	2

12.

		2	2	9	1
x				4	0

13.					
		2	3	1	6
x				9	0

14.					
		1	0	7	4
x				1	9

15.					
		2	1	9	6
x				4	5

16.					
		1	8	8	6
x				1	7

Long Division Practice Worksheet

Use the squares to ensure your calculations are set out correctly.

Example							
			1	5	0	r2	1
2	4	3	6	2	1		
	–	2	4				
		1	2	2			
		1	2	0			
				2	1		

1. 241 ÷ 17 =

2. 965 ÷ 31 =

3. 1415 ÷ 12 =

4. 4465 ÷ 19 =

5. 1946 ÷ 31 =

6. 1371 ÷ 40 =

7. 6527 ÷ 31 =

8. 4895 ÷ 46 =

9. 8572 ÷ 39 =

10. 9109 ÷ 50 =

11. 9758 ÷ 48 =

12. 15 245 ÷ 62 =

Division Practice – Answers in Context

Choose your method and give an answer appropriate to the question.

1. What is 818 ÷ 8? Please express your answer as a decimal.

2. Calculate 17 x ? = 663

3. 1676 football fans wish to travel to an away match. If each coach can take 52 fans, how many coaches are needed?

4. 456.424 ÷ 4 =

5. If David earns £14 a week, how many weeks will he need to save to buy a console costing £399.99?

6. 3785 ÷ 18 =
Please give your remainder as a fraction.

7. 885 + 1000 = 29 x (3 +?)

8. Sid buys 9732 loose tiles and decides to sell them in boxes of 48. How many full boxes will he be able to make?

Short Division Practice Worksheet

1.

2 | 4 1

2.

8 | 2 5 7

3.

9 | 3 9 9

4.

5 | 2 1 4

5.

7 | 5 4 5

6.

9 | 8 6 7

7.

5 | 4 3 3

8.

5 | 1 3 7

9.

7 | 4 3 9

10.

8 | 4 8 9

11.

1 1 | 3 4 2

12.

1 2 | 2 9 8

13.

1	6	4	2	1		

14.

1	7	5	6	2		

15.

2	1	4	5	2	6	

16.

1	7	3	9	2	3		

Mental Maths - Addition

For each of these sheets, either see how quickly you can do them or find someone to read them to you and give you a certain amount of time for each question – possibly 5 seconds!

1. Add together 40p and 30p.

2. What is the total of 15 and 14?

3. Lauren was given some money for her birthday. Her brother gave her £2.50 and her grandma gave her £5.00. How much did she get in total?

4. Omar collects 50 bus tickets and 35 train tickets. How many tickets does he have in total?

5. What is the sum of 36, 50 and 14?

6. Luigi buys two chocolate bars - a Caramel Snap costs 84p and a Fudge Chunk costs 33p. How much does he spend in total?

7. A postman delivered 14 letters on Tuesday and 19 letters on Wednesday. How many did he deliver altogether?

8. Two sacks of potatoes were delivered to a shop - one weighed 35kg and the other weighed 19kg. How much did they weigh altogether?

9. 46 + 5 = 36 + ?

10. Chocolate wafers come in packets of 2. How many wafers would there be in 47 packets?

Sheet 2

For each of these sheets, either see how quickly you can do them or find someone to read them to you and give you a certain amount of time for each question – possibly 5 seconds!

1. Add together 50, 60 and 30.

2. What is the total of 25, 17 and 33?

3. Georgina was given some money for Christmas. Her brother gave her £3.50, her sister gave her £2.00 and her grandma gave her £2.50. How much did she get in total?

4. Amit collects 66 first class stamps and 22 second class stamps. How many stamps does he have in total?

5. Caroline has two sacks of apples in one there are 43 apples - in the other there are 59. How many are there altogether?

6. What is the sum of 46, 30 and 75?

7. Samir buys three chocolate bars. A mars that cost 82p, a Snickers that cost 39p and a Milky way that cost 50p. How much did he spend in total?

8. A teacher gives out 14 worksheets on Monday, 28 on Tuesday and 27 on Thursday. How many worksheets did she give out in total?

9. If Malcom gets given £4 a day, will he have enough to buy a £30 football kit by the end of the week?

10. What is 138 + 567?

Sheet 3

For each of these sheets, either see how quickly you can do them or find someone to read them to you and give you a certain amount of time for each question – possibly 5 seconds!

1. Add together 37, 21, 46 and 43.

2. Which is more? 35 + 18 or 44 + 1

3. Paul was given some money for his birthday. His brother gave him £1.54, his sister gave him £1.53 and his grandma gave him £5.25. How much did he get in total?

4. Anita collects 122 bus tickets, 62 cinema tickets and 24 train tickets.
   How many tickets does she have in total?

5. What is the sum of 134, 76 and 152?

6. Leon buys three tubs of ice cream. Caramel Fudge costs £1.58, Marshmallow Fudge Chunk costs £1.36 and Mint Madness costs £1.53. How much did he spend in total?

7. 45 + 87 = 99 + ?

8. If there are 1456 people at the rugby match and 997 leave towards the end, how many people remain at the match?

9. What is the most you can add to 332 without creating a 4 digit number?

10. Which is closest to 100? 35 + 55 or 11 + 78

Mental Calculations Challenge – 4 Operations

Look at the varied calculations below, which cover all four number operations and work your way through. For each question, judge whether or not you think you can perform the calculation mentally. See how many points you can score – the more risks you take, the higher the rewards!

Scoring system:

Score 2 points for every correct answer achieved after using a written method of calculation.

Score 0 points for any incorrect answer achieved after using a written method of calculation.

Score 3 points for every correct answer achieved after a mental calculation

Score 1 point for each incorrect answer achieved after using a mental calculation.

1. 680 + 45 + 1.7 =

2. 138 ÷ 23 =

3. 28 – 23 =

4. 3 x (2.3 + 3) =

5. 9999.99 + 0.1 =

6. 10 000 ÷ 100 =

7. 73 x 11 =

8. 100 – 0.1 =

9. 7.6. x 6 =

10. 134 + 375 =

11. 204 ÷ 12 =

12. 47 001 – 590 =

13. 27 – 53 =

14. 137 x 3 =

15. 53 620 + 990 =

16. 405 – 17 =

Find the Common Factors: Task 1

Can you find the common factors for these pairs of numbers?

1.

(3)   (5)

The common factors are:

2.

(8)   (40)

The common factors are:

3.

(30)   (12)

The common factors are:

4.

(21)   (42)

The common factors are:

Find the Common Factors: Task 2

Can you find the common factors for these trios of numbers?

1.

$\bigcirc$ 10 $\bigcirc$ 25 $\bigcirc$ 75

The common factors are:

2.

$\bigcirc$ 6 $\bigcirc$ 42 $\bigcirc$ 84

The common factors are:

3.

$\bigcirc$ 28 $\bigcirc$ 36 $\bigcirc$ 64

The common factors are:

4.

$\bigcirc$ 27 $\bigcirc$ 54 $\bigcirc$ 90

The common factors are:

Identifying Prime Numbers 1-200

Use any method you wish, to identify all the prime numbers between 1 – 200 then check your answers! Did you make any mistakes? Can you see where you went wrong?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200
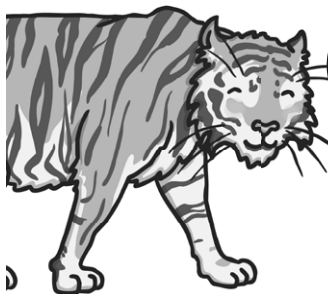
Remember a prime number is any number higher than 1 which can only be divided by 1 and itself.

Remember that numbers can be divisible by larger numbers as well as numbers 0 - 12 e.g. 169 ÷ 13 = 13

Finding Common Multiples

List the multiples of each number and use your lists to find the Lowest Common Multiple (LCM - the lowest multiple shared by both numbers)

e.g. 7 and 3

Multiples of 7: 7, 14, ㉑, 28, 35, 42, 49

Multiples of 3: 3, 6, 9, 12, 15, 18, ㉑, 24

LCM of 7 and 3 = 21

1. 3 and 4

Multiples of 3:

Multiples of 4:

LCM of 3 and 4 =

2. 3 and 9

Multiples of 3:

Multiples of 9:

LCM of 3 and 9 =

3. 2 and 5

Multiples of 2:

Multiples of 5:

LCM of 2 and 5 =

4. 8 and 4

Multiples of 8:

Multiples of 4:

LCM of 8 and 4 =

5. 6 and 9

Multiples of 6:

Multiples of 9:

LCM of 6 and 9 =

6. 10 and 5

Multiples of 10:

Multiples of 5:

LCM of 10 and 5 =

7. 11 and 6

Multiples of 11:

Multiples of 6:

LCM of 11 and 6 =

8. 7 and 13

Multiples of 7:

Multiples of 13:

LCM of 7 and 13 =

9. 8 and 12

Multiples of 8:

Multiples of 12:

LCM of 8 and 12 =

10. 25 and 40

Multiples of 25:

Multiples of 40:

LCM of 25 and 40 =

Using the Correct Order of Operations – Speed Challenge

Use the order of operations described by BODMAS to answer these questions as quickly as you can. Note down the time it takes you and add a ten second penalty for any errors!

1. $75 - 5 \times 5 =$

2. $6 + 6 \times 6 =$

3. $9 \times 9 + 9 =$

4. $45 \div (3+2) =$

5. $17 \times 2 - 9 \div 3 =$

6. $(9 \times 3) \div (5+4) =$

7. $8^2 \div 4 + 3 =$

8. $(4 + 7) \times 3 =$

9. $7 + 63 \div 9 =$

10. $5 \times (6 + 3) =$

11. $63 \div (25-16) =$

12. $9 \times (4 \times 2 + 2) =$

13. $(5 + 3) \times 6 = 40 +$ ____

14. $81 - 24 \div 6 + 3 =$

15. $(5 + 3) \times 6 =$

16. $5 + 9 - 7 + 2 =$

17. $72 - (8 \times 7) + 9 =$

18. $6 + 72 \div 9 =$

19. $4^2 \div 16 + 3 =$

20. $56 + 13 \div 13 =$

Time:

Penalty seconds:

Total:

---

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Banana Bob's Fruit Shop - Sheet 1

Banana Bob sells the best and cheapest fruit and veg for miles around. Work out how much you will need to pay him for these fruits and vegetables. **Show your working and units**. Don't forget to find out how much **100g** will cost first.

1. 500g of carrots	**2.** 700g of bananas	**3.** 200g of pears
4. 800g of apples	**5.** 400g of cherries	**6.** 300g of coconuts
7. 600g of broccoli	**8.** 800g of sweet potatoes	**9.** 900g of pineapple
10. 300g of raspberries	**11.** 700g of corn on the cob	**12.** 2kg of watermelon

Price List	
Carrots	£0.80 / kg
Pears	£1.10 / kg
Apples	£1.20 / kg
Cherries	£5.00 / kg
Pineapples	£2.00 / kg
Sweet potatoes	£1.30 / kg
Broccoli	£2.50 / kg
Coconuts	£1.40 / kg
Watermelon	£1.50 / kg
Raspberries	£9.10 / kg
Corn on the cob	£5.90 / kg
Bananas	£0.70 / kg

How much will the shopping cost altogether?

Banana Bob's Fruit Shop - Sheet 2

Banana Bob sells the best and cheapest fruit and veg for miles around. Work out how much you will need to pay him for these fruits and vegetables. **Show your working and units**. Don't forget to find out how much **100g** will cost first.

If your calculation creates a decimal, simply round it to the nearest penny.

Use the same price list to work out how much this fruit salad would cost.

150g of apples

300g of pineapples

250g of bananas

50g of cherries

200g of pears

Price List	
Carrots	£0.80 / kg
Pears	£1.10 / kg
Apples	£1.20 / kg
Cherries	£5.00 / kg
Pineapples	£2.00 / kg
Sweet potatoes	£1.30 / kg
Broccoli	£2.50 / kg
Coconuts	£1.40 / kg
Watermelon	£1.50 / kg
Raspberries	£9.10 / kg
Corn on the cob	£5.90 / kg
Bananas	£0.70 / kg
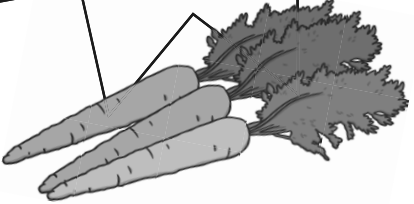
Smoothie

Use the same price list to work out how much a smoothie using these ingredients would cost:

125g of apples

300g of pineapples

250g of bananas

150g of cherries

125g of pears

250g watermelon

150g coconuts

TIP

Carrots: 80p / kg
100g = 8p

5 x 8p = 40p

500g of carrots costs 40p

Solving Multi Step Word Problems

For each word problem, underline the key information, write down the calculations and work out the answers. The problems may involve adding, subtracting, multiplying or dividing.

1. On Sunday I spent 114 minutes on my art project, and 45 minutes on my numeracy homework.
    On Thursday evening I spent a total of 111 minutes on my homework.
    What is the difference between the time I spent doing homework on Sunday and Thursday evening?

2. Dad drives a truck. Last week he drove 267 miles on Monday, 186 on Tuesday and 198 on Wednesday.
    This week Dad drove 282 miles in total.
   What is the difference in mileage between this week and last week?

3. One watch costs 98p and I bought four.
    If I paid with a £10 note, how much change did I receive?

4. There are 12 eggs in each egg tray and I bought 9 trays.
    I used 3 trays of eggs this weekend, how many individual eggs do I have left now?

5. I need to buy enough whiteboards for 172 students and there are 25 in a pack. When the packs arrive 12 whiteboards are damaged.
   How many whiteboards are undamaged?

6. At the fabric shop I bought 238 metres of orange fabric, 100 metres of yellow fabric and 267 metres of purple fabric.
   I have used 15 metres of the orange fabric, 25 metres of yellow fabric and 7 metres of purple fabric.
   How many metres of fabric do I have left in total?
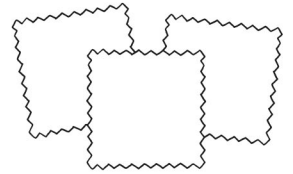
7. I got £48.50 for my birthday. I spent £12.50 on Saturday and £19.20 on Sunday.
   How much spending money have I got left?

8. Mum arrived at Grandma's house at 7:55am. My brother had set off at 7:20am and arrived at Grandma's house 15 minutes after Mum. How long did it take him to get there?

9. Sally bought 3 photograph frames, each costing £7.55.
   She paid with £30.00. How much change did she get?
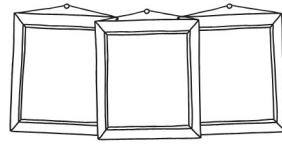
10. I walk 3000m every day. How many days would it take me to walk 273km?