Identifying factors and multiples

Look at a multiplication grid and write all the numbers that are multiples of these numbers.

1 7

3 9

2 4

Write the numbers that are common multiples of these pairs.

4 2 and 3

7 4 and 6

5 3 and 4

8 4 and 8

6 2 and 7

9 4 and 5

Write the smallest common multiples of the following pairs.

10 2 and 3

14 2 and 4

18 6 and 8

11 2 and 5

15 3 and 12

19 8 and 10

12 3 and 4

16 4 and 6

20 10 and 15

13 3 and 5

17 8 and 12

21 25 and 30

THINK 12 is a common multiple of 2, 3 and 4. Work out another number that is a common multiple of consecutive numbers.

I am confident with working out and identifying multiples of 1- and 2-digit numbers.

1 (2) (7)   5 (4) (5)   9 (5) (8)

2 (3) (4)   6 (5) (15)   10 (2) (6) (5)

3 (5) (3)   7 (25) (20)   11 (3) (4) (5)

4 (6) (10)   8 (4) (9)   12 (10) (15) (25)

THINK Use one set of 2–9 number cards.
Investigate all of the different possible pairs
of cards and the smallest common multiple
of each pair. You can record them in a table.

×	2	3	4
2	4	6	8
3			
4			

How many different common multiples are there?

1 On squared paper, copy and continue this number spiral up to 80. Colour the prime numbers. Describe any patterns they make.

		3	4	5
	11	2	1	6
	10	9	8	7

I am a prime number. Who am I?

2 I am between 20 and 70. My digits total 10.

3 I am a 2-digit number. My digits have a difference of 7.

4 I am the third prime number after 20.

5 I am the fourth prime number after 40.

6 I am between 25 and 42. My units digit is a prime number.

7 I am between 40 and 80. When my digits are reversed I am another prime number.

8 Use one set of 1–9 number cards to make prime numbers.

Make four prime numbers using six cards.   31 47   2 5
Make four prime numbers using seven cards.   61 29 47 3

Can you use more than seven cards to make a prime number?

Decide if these statements are true or false.

1. All prime numbers are odd numbers.

2. There are ten prime numbers less than 30.

3. All prime numbers have exactly two factors.

4. The total of two prime numbers is always an even number.

5. Every number next to a multiple of 6 is a prime number.

6. Every 2-digit prime number is next to a multiple of 6.

7. Every 2-digit multiple of 6 is next to a prime number.

8. There is only one 2-digit prime number that has 6 as a tens digit.

9. 1 is not a prime number.

10. All 2-digit prime numbers have a ones digit of 1, 3, 7 or 9.

11. There are four prime numbers between 10 and 20.

12. A square number cannot be a prime number.

Solve this problem.

13. These pairs of prime numbers have a total of 90

    7 and 83   11 and 79

Can you find seven more pairs like this?

THINK Large prime numbers are used as security codes because they are difficult to crack. Find some prime numbers greater than 100. Try to find some very large ones. Use a divisibility test to help you.

I am confident with identifying prime numbers.