

The factors of 18 are: 1, 2, 3, 6, 9, and 18

The factors that are prime numbers are 2 and 3.

Every number has at least 2 factors: 1 and the number itself

A number with more than 2 factors is a **composite number**.

Practice

You may use Colour Tiles or counters to model your solutions.

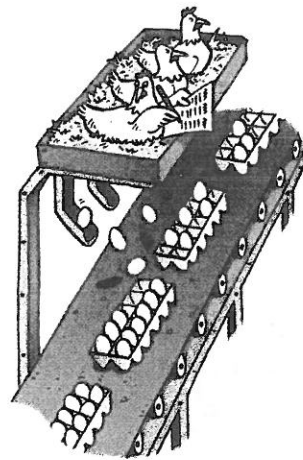
1. List all the factors of each number. *Choose 6*
- | | | | | |
|-------|-------|-------|-------|-------|
| a) 6 | b) 9 | c) 25 | d) 30 | e) 12 |
| f) 50 | g) 28 | h) 98 | i) 20 | j) 63 |

2. a) Name a prime number.
Explain how you know it is a prime number.
- b) Name a composite number.
Explain how you know it is a composite number.

3. Which numbers below are factors of 80?
~~How do you know?~~
- | | | | |
|------|------|------|-------|
| a) 2 | b) 3 | c) 4 | d) 5 |
| e) 6 | f) 8 | g) 9 | h) 10 |

4. Which of the numbers 2, 3, 4, 5, 6, 8, 9, 12, 15, 17, and 19 are factors of:
a) 24? b) 38? c) 45? d) 51?
What strategy did you use to find out?

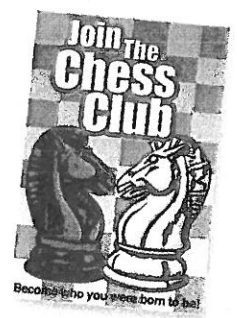
5. Eggs are packaged in cartons of 12.
Which of these numbers of eggs can be packaged in full cartons? ~~How do you know?~~
- | | | | |
|-------|-------|-------|-------|
| a) 96 | b) 56 | c) 60 | d) 74 |
|-------|-------|-------|-------|



6. Write 3 numbers between 30 and 50 that have:
a) exactly 2 factors each b) more than 2 factors each
7. Write 3 numbers less than 100 that have exactly 4 factors each.
8. Sort these numbers as prime or composite.
~~How did you decide where to place each number?~~
- 59 93 97 87 73 45

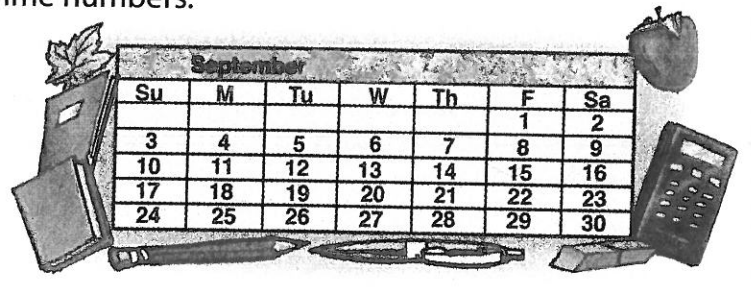
23

9 Between 20 and 28 students signed up for the chess club. The students could not be divided exactly into groups of 2, 3, 4, or 5. How many students signed up for the chess club? Show your work.



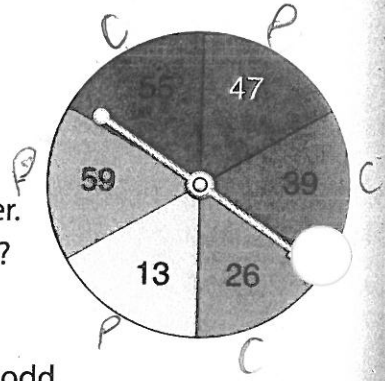
10 How many numbers between 70 and 80 are prime numbers? What numbers are they? Explain how you know they are prime numbers.

11 How many days in September have a prime number date? How many have a composite number date? Show how you know.



12 How can you tell that 32 and 95 are not prime numbers without finding their factors?

13 Brigitte and Stéphane play a game with this spinner. Brigitte gets a point if the pointer lands on a prime number. Stéphane gets a point if the pointer lands on a composite number. The first person to get 20 points wins. Who is more likely to win? How do you know?



14 A student said, "All prime numbers except for the number 2 are odd. So, all odd numbers must be prime numbers." Do you agree with the student? Explain.

15 Copy this Carroll diagram.

	Prime	Composite
Even		
Odd		

Sort the numbers from 2 to 30.

Reflect

Both 0 and 1 are neither prime nor composite. Explain why.