Wedding madness!

To solve a multi-step problem, work out questions one step at a time. Read each step carefully and decide on the calculation needed. Jot down information you need to remember and always check your answers.

1. Footballer Gary Goalie is marrying Mystique from the pop group Flirty Foxes. Work out the total cost of their wedding. Use the box below to make jottings.

There will be 480 guests at the wedding.

- A seven-course meal: £52 per head
- 1200 bottles of champagne: £30 each
- The band will play for 3 hours: £3250 per hour
- 120 flower arrangements: £28 each
- 212 taxis: £15 each

Total cost = ☐

2. However, Gary plays for lowly Dumpton Town and gets paid £300 per week. How many weeks will it take Gary to pay for the wedding?

☐ weeks

Jottings:

Use your squares

Squaring a number is multiplying it by itself, for example 12 squared or $12^2 = 12 \times 12 = 144$. When squaring multiples of 10, make sure that the number of zeros in the answer matches the number of zeros in the question, for example 60×60 has two zeros, so there must be two zeros in the answer: $60 \times 60 = 3600$.

Use your knowledge of square numbers to help you solve these problems.

1. Rashid says: "$12 \times 12 = 144$, so 12×13 must equal 157."

   a. Is he correct? _____

   b. Explain your reasoning. _____

2. Mr Smith's garden measures 49m by 52m.

   a. What is the garden's approximate area? _____

   b. Explain how you worked this out. _____

3. Molly says: "To find the answer to 70^2, you multiply 7×7, then add the zero. The answer is 490."

   a. Is she correct? _____

   b. Explain your answer. _____

4. What number multiplied by itself gives the answer 6400? _____

5. Sunnyville School's playground measures 40m by 40m. A space measuring 18m by 22m is marked out for ball games. Approximately how much space is left for other types of games? Show your workings.

_____

_____

_____

In sequence

You may find it useful to explain the rules of a number sequence to someone verbally before writing it down.

1. Give the next four numbers in these sequences. Write the pattern used at the end.

a. 0 5 9 15 18 _____

b. 0 2 8 10 16 _____

c. 3 5.5 8 10.5 13 _____

2. Write in the missing numbers in each of these sequences. Explain the rule that has been used to make the sequence.

a. $\frac{23}{8}$ _____ $\frac{27}{8}$ _____ $\frac{33}{8}$ _____ $\frac{41}{8}$

Rule: _____

b. 0.15 0.8 _____ 2.1 _____ _____ 4.05 _____

Rule: _____

3. This pattern continues in the same way. Answer the questions.

a. Which shape appears in the 28th position? _____

b. How many triangles will there be until you reach the number 40? _____

c. Explain how you found your answers. _____

_____

Algebra problems

Expressions can be simplified by putting the terms together, for example h + h + h can be written as 3h and 5y + 3 + 4 − 2y can be written as 3y + 7. Expressions are also a shorthand way of writing longer number statements or sentences, for example 'Five less than a mystery number' can be written as x − 5.

1. Simplify the following expressions.

a. f + f + f + f = _____

b. 5 + n + 10 = _____

c. g + 6 + g − 8 = _____

d. 2h + h + 3h − h = _____

e. g + g + g + h + h + h = _____

f. 3x + 2y + 2x − y = _____

2. The mystery number is x. Draw a line to match each description in words with the correct expression.

The mystery number multiplied by six and added to two.	x + 3
Two divided by the mystery number.	50 ÷ x
Three more than the mystery number.	6x + 2
The mystery number added to two then multiplied by six.	x^2
The mystery number divided by two.	x ÷ 50
The mystery number divided by fifty.	2 ÷ x
Fifty divided by the mystery number.	x ÷ 2
The mystery number multiplied by itself.	6(x + 2)