

CALCULATIONS

Pupils should be taught to:

Consolidate and extend mental methods of calculation, accompanied where appropriate by suitable jottings (continued)

As outcomes, Year 7 pupils should, for example:

Word problems and puzzles (all four operations)

Apply mental skills to solving simple problems, using jottings if appropriate. For example:

Oral questions

- Arrange the digits 3, 5 and 2 to make the largest possible odd number.
- Write in figures the number two and a quarter million.
- A girl scored 67 in her first innings and 128 in her second innings. What was her total score?
- Pencils cost 37p each.
How many pencils can you buy with £3.70?
- A 55 g bag of crisps has 20% fat. How much fat is that?
- A boy saved £215. He bought a Walkman for £69.
How much money did he have left?
- A girl used 2 metres of wood to make 5 identical shelves.
How long was each shelf?
- Estimate the value of 51×19 .
- Find two numbers whose sum is 14 and whose product is 48.
- There are 12 green buttons and 4 white buttons in a tin.
I choose one button at random from the tin.
What is the probability it is a white button?

Written questions

- Sandy and Michael dug a neighbour's garden.
They were paid £32 to share for their hours of work.
Sandy worked for 6 hours. Michael worked for 2 hours.
How much should Sandy get paid?
- The mean of a , b and c is 6. a is 5 and b is 11. What is c ?
- Tony, David and Estelle are playing a team game.
They need to get a mean of 75 points to win.
Tony scores 63 points, Estelle scores 77 points and David scores 77 points. Have they scored enough points to win?
- What is the value of $6n + 3$ when $n = 2.5$?

Solve problems or puzzles such as:

- Three consecutive integers add up to 87.
What are they?
- Choose from 1, 2, 3, 4 and 5 to place in the boxes.
In any question, you cannot use a number more than once.
a. $\square - \square + \square = 5$ d. $(\square + \square) \div \square = 2$
b. $\square + \square - \square = 4$ e. $(\square + \square) \div (\square + \square) = 1$
c. $\square \times \square - \square = 3$
- Use each of the numbers 1, 2, 4, 6, 8, 12 once.
Write one number in each circle.
The product of the three numbers on each side of the triangle must be 48.
- Write any number up to 40.
Multiply its last digit by 4 then add the other digit to this.
Repeat the process until you get back to the original.
What is the longest chain you can make?

