Multiplication and division puzzles – teacher notes

Learning Outcomes

* Identify and use appropriate operations (including combinations of operations) to solve word problems involving numbers based on ‘real life’.

# Resources

## Copies of ‘Multiplication and division puzzles’

# Oral and mental starter

Write on the board a number, say 108. Get the pupils to tell you as much as they can about that number remembering to use appropriate mathematical words. For example, they may say ‘it’s even’. ‘It’s divisible by three’, etc…

When they pupils have found as many facts as possible let one of the pupils choose another and repeat the same game.

# Main Activity

Hand out the ‘Multiplication and division’ worksheet and briefly discuss question 1. Make sure that the pupils understand the meaning of ‘quarter’ and ‘quarterly charge’.

Let the pupils read the other questions on the sheet, then ask them if there is anything they don’t understand. Tell them to pay particular attention to the top of the worksheet, as the group will be comparing methods at the end. The class may work in pairs if you wish.

*Answers:*

1. *£44*
2. *58 @ 9p each = £5.22, 6 boxes cost £5.10, 5 boxes and 8 individual rosettes cost $4.25 + 72p = £4.97, so this is the cheapest way.*
3. *765 raffle tickets are sold*
4. *No, only enough for 5*
5. *157 x 6 = 942*
6. *39*

# Differentiation

More able: Go on to make up their own ‘missing number’ problems.

Less able: Work with them to ensure that they understand the problems.

# Plenary

Discuss and compare the methods used to solve the problems.

Multiplication and division puzzles

Solve these problems. Do not use a calculator. Use numbers signs and symbols to show your working.

1. Mr Dainty’s electricity bill says that for this quarter he has used 500 units @ 7p per unit. There is also a quarterly charge of £9.00. What is the total amount due?
2. On Sports Day, Mr Sanderson wants to give each of the 58 competitors a cardboard rosette. He finds that they cost 9p each or a box of ten costs 85p. What is the cheapest way to buy the rosettes and how much will they cost?
3. Raffle tickets are sold at 50p for a strip of 5 tickets. The total money taken is £76.50, how many raffle tickets were sold?
4. Mr Fee is making cushions for his living room. Each is square and has edges 45cm long. He wants to put piping all around the edges of the cushions and has 10m of piping. Does Mr Fee have enough for six cushions?
5. Fill in the missing digits. All the digits are different.

x

7

9

2

4

1. If I think of a number then add 3 to it. If I divide this new number by 7 the answer is 6, what was the original number?

Now make up some similar number puzzles like question 5 for your partner to try. Write them in you book but make sure that you can do them first!