

Mental Maths

What can you tell me about the number **346**?

Think about things like which of the digits are odd or even, how many ones are there, what can you divide the number by, what is the sum of the digits...

Choose the best set of questions below for you to answer, or you could try all of them! Use the RUCSAC method to solve the problems:



**Read**

Read the question carefully.



**Underline**

Underline or write down the keywords and numbers.



**Choose**

Choose the correct operation (+ - x or ÷) and a mental or written method of calculation (you could use diagrams).



**Solve**

Solve it! Make sure you follow the steps carefully.



**Answer**

Check that you have answered the question properly. What did you need to find out in the first place?



**Check**

Check your answer. Use the inverse calculation or another checking technique (was it close to your estimate?)

1. Jade bought a gob-stopper. It cost 6p and she paid for it exactly.
  - a. Which coins did she use? There are five different ways to do it – find as many as you can and record them in the table below.

	Coins used	Total
Option 1		6p
Option 2		6p
Option 3		6p
Option 4		6p
Option 5		6p

b. What if the gob-stopper cost 7p?







2. Harriet is sending a letter to Germany and she has to pay £0.85 for the postage.
- a. If she pays using 20p, 10p and 5p coins, how many different ways can she pay? Use the table below to record at least five options.

	Number of 20p coins	Number of 10p coins	Number of 5p coins
Option 1			
Option 2			
Option 3			
Option 4			
Option 5			

- b. If Harriet also had 2p coins, what is the greatest number of coins she could use to make £0.85?

### Challenge

3. All games have the full price on the tag. If you buy the game second-hand, it costs  $\frac{1}{2}$  of the full price. If you buy two or more second-hand games you can get each of them for  $\frac{1}{4}$  of the price. All new games are full price. Use the information to answer the following questions.

Wall of Spies	FOFA 16	Minecraft	The Force Sleeps	Cool Duty	Toastbusters
 £1.80	 £3.96	 £5.00	 £4.00	 £4.48	 £5.84

- a. How much would it cost to buy a second-hand copy of The Force Sleeps?
- b. What would the total cost of buying Minecraft and The Force Sleeps second hand?
- c. How much would it be to buy new versions of both Cool Duty and Toastbusters?
- d. How much would you pay to buy second-hand copies of Wall of Spies and FOFA 16?
- e. What would the cost be for a new copy of Toastbusters and second-hand copies of Toastbusters and The Force Sleeps?
- f. How much would it cost to buy all of the games brand new?