

General Mathematics
Reasoning and Enquiry

1. Two garages are selling the same model of car for the same price.
One garage asks for a £1200 deposit plus 24 equal payments of £250.
The other garage asks for a £1800 plus 36 equal payments.



How much should each payment be?

2. Mr. and Mrs. Anwar want to buy a house valued at £125 000. They need a loan of £110 000.
The Southern Rock Building Society lends up to 90% of the value of the house.
Will Mr. and Mrs. Anwar be able to borrow the money they need from the Southern Rock Building Society?



3. This advertisement appeared in a Newspaper

	Adult	Child
Balcony	£12	£8
Front Stalls	£10	£6
Back Stalls	£ 8	£5

**Phone for details of special prices
for mid-week show**

A school phoned for details of the special prices for the mid-week show.
Tickets for the back stalls were bought for 20 pupils and 2 teachers.
The tickets cost a total of £60.

- (a) How much did the school save?
- (b) The teachers paid £5 for their tickets.
How much did each pupil's ticket cost?

4. A new cinema with 960 seats has just opened.
During the first week, the cinema was open 7 days and ran 5 showings per day.
A total of 25 500 tickets was sold.
The cinema owners had set a target of selling 75% of tickets in the first week.

Did the owners meet their target?



5. Mr. and Mrs. Smith are having a party to celebrate their 25th wedding anniversary. They want to buy Champagne. They see this sign in a shop window.

<p>Champagne</p>  <p>£29.99 per bottle</p> <p>15% discount when you buy 12 bottles</p>
--

Calculate the cost of 12 bottles of Champagne.

6. Two lenders, First Mortgages and Best Loans, offer mortgages at two different rates on loans of £95 000.

<p>First Mortgages</p> <p>Monthly payment £420.50</p> <p>Plus</p> <p>One-off set-up fee £700</p>
--

<p>Best Loans</p> <p>Monthly payment £445.75</p> <p>And</p> <p>No other fees to pay</p>

Which mortgage would be better value over a three-year period and by how much?

7. Computers Direct buy a computer for £320 and sell it to make a 20% profit.

- (a) What is the selling price of the computer?
- (b) Computers Direct add 30% to the selling price when the computer is bought on credit. Credit terms are a deposit of £60 followed by 24 equal payments. Calculate the cost of each payment.



8. A house loses heat through its roofs, walls, windows and doors. The Robinson's house loses 22% of its heat through its roof.
- (a) If the total heat lost from the Robinson's house costs £750 each year, how much is lost through the roof?
- (b) If the Robinson's insulate their loft, the heat lost through the roof will be reduced by two-thirds. How much money will they save each year if they insulate their roof?
- (c) It will cost £850 to insulate the loft. How long will it take them to recover this cost?

9. The Elgasaei family are buying a new kitchen costing £5400. The kitchen can be bought on hire purchase. The hire purchase price of the kitchen is 20% more than the cash price. The hire purchase agreement requires a deposit of 30% of the cash price followed by 48 equal monthly instalments.



Calculate the cost of each instalment.

10. Four friends have dinner in a restaurant. A service charge of 15 % is added to their bill. Their bill is shown opposite.

One of the friends thinks the service charge has been calculated wrongly.

Is the service charge correct?

Gautam's Indian Restaurant

4 pakoras	£4.20
4 chicken bhuna	£32.00
2 boiled rice	£2.50
2 Nan bread	£2.80
4 colas	£4.60

Total **£46.10**

Total (including service charge) £55.20

11. A basic cable television package, which includes 20 channels, costs £14.75 per month. The cost of installation is £70 which will be included in the first month's bill.

Additional channels can be added to the basic service.

- The movie channel package costs £13.50 per month
- The music channel package costs £5.50 per month
- The sports channel package costs £15.50 per month

The Wilson's first bill after having cable television installed was £103.75.

They chose the basic package and two additional channels package. Which additional packages did they choose?



12. David suffers from chronic inflammation of his muscles. He has to take 3 tablets a day to relieve the pain he suffers. The tablets are supplied in boxes of 84. Each box of tablets cost £5.50.

How much would it cost for a year's supply of the tablets?



13. The tariffs below are available when buying a mobile phone.

Pay As You Go
Calls: 15p per minute

Monthly Contract
Rental: £20
Calls : 5p per minute.



Michael and Amanda have mobile phones.
Michael is on Pay As You Go and Amanda has a monthly contract.

One month the cost to each was exactly the same **and** they used the same number of minutes.

How many minutes was this?

14. Asiya sees this advertisement for Discount Computers.

- (a) Asiya buys the computer from Discount Computers.
What is the total cost of the computer?
- (b) One week later Asiya sees the same computer in a different shop for £520 including VAT.

She goes back to Discount Computers to claim her refund. How much money should be refunded to her?



15. A group of people visited a tower.

Seven climbed the stairs to the top while the rest used the lift.
The lift had to make 6 trips to get the rest to the top and was fully loaded each time.

On the way down, 31 people in the group used the stairs and only 3 trips of the lift were needed to bring the rest down. The lift was fully loaded each time.

- (a) How many people did the fully loaded lift take?
- (b) How many people were in the group?



16. Ziyang buys some CD's and some DVD's. The CD's cost £6.50 each and the DVD's cost £9 each. Altogether he spends £88.
How many CD's and how many DVD's does Ziyang buy?



17. The management committee for a private housing estate want to have the pavements in the estate resurfaced.
To go ahead with the work at least 85% of the house owners on the estate must agree.
If there are 571 house owners on the estate and 475 agree to the work, can the pavements be resurfaced?

18. Lockie and Lockie supply revision booklets to schools for pupils sitting Higher exams.
They send the advertisement opposite to schools.

Hillside Academy English department order 58 booklets. Calculate how much the booklets will cost in total.

**Lockie & Lockie
Higher Revision
Booklets
£6.50 each**

**SPECIAL OFFER
Buy 10 pay for 9**

19. Letters can be sent using first or second class stamps. A first class stamp costs 39 pence and a second class stamp costs 30 pence.
Debbie buys some first class and some second class stamps.
In total the stamps cost her £3.84.



How many first class and how many second class stamps does Debbie buy?

20. A film is made up of a series of still frames which are run together at a rate of 24 frames per second.

The film 'Hot Fuzz' lasts for 1 hour and 56 minutes. How many still frames make up the film 'Hot Fuzz'?



21. The Wood family own three dogs and two cats.
Last year each dog had two check-ups at the Petcare Vet Centre.
Both family cats also had check-ups at the same centre.

The Wood's total check-up fees for their dogs and cats were £141.
How often did the cats have a check-up?

**Petcare Vet Centre
Check-up Fees**

**Dog £12.50
Cat £8.25
Rabbit £6.75**