

Excuse me, Russian Peasant stereotype, but would you mind awfully multiplying **22 by 44**?

968! Iz eazy! Peasant method iz good, no?
(You like rabbit stew?)



RUSSIAN MULTIPLICATION

Russian peasants used an interesting way of multiplying large numbers. For example, if the numbers are 22×44 , you halve one number and double the other, ignoring any remainders.

Where the number in the halve column is odd, including the original number, you should repeat the number that is in the double column in the add column. Add up these numbers. In this example the total is 968. It sounds totally scary but look at the example and you'll see how easy it is!

Draw three columns and label them.	Halve	Double	Add
Write the numbers to be multiplied. Halve column is an even number so the Add column stays empty.	22	44	
Halve column one, Double column two. The Halve number is odd so put the number in Double column into Add column also. Repeat this for the third line.	11	88	88
Halve column one, Double column two. The Halve number is now even so no number goes in the Add column.	5	176	176
Halve one and Double two as before. The Halve number is odd so the Double number goes in the Add column also.	2	352	352
Halve one and Double two as before. The Halve number is odd so the Double number goes in the Add column also.	1	704	704
Add the Add column to get the answer.			968

Try one for yourself: 25×34 .

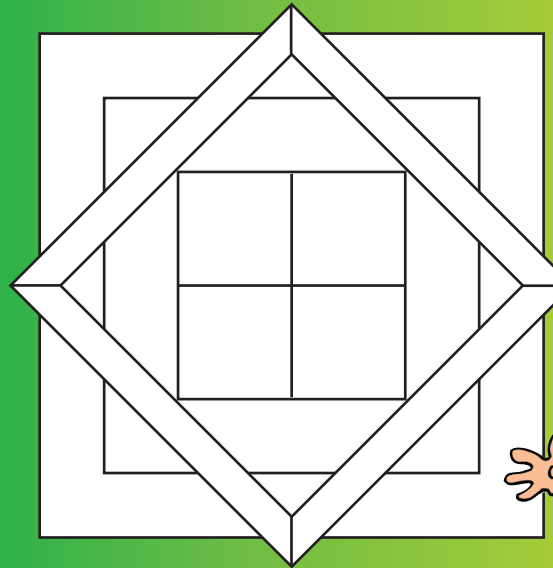
What's a polygon?
A dead parrot!



COLOUR PUZZLE

In 1852 a mathematician called Francis Guthrie suggested that any map could be coloured using just 4 colours and that no two countries next to each other need have the same colour. This became known as the Four Colour Problem and wasn't solved until 1976, with the help of a huge computer.

Trace over the puzzle first and then see if you can do this puzzle. No two sections that touch can be the same colour and you can only use 4 colours. (Hint: start from the middle and work out).



GAME OF 15

You will need paper and pens. Game for 2 players.

Write the numbers 1 2 3 4 5 6 7 8 9 on a piece of paper. The aim is to choose any **3** numbers that add up to 15. Take it in turns to select a number and then cross that number out - it can't be used again. The first player to have any 3 numbers that add up to 15 wins.

Example:

Player 1 chooses 8
Player 2 chooses 6
Player 1 chooses 4
Player 2 chooses 3 (to stop Player 1 getting $8+4+3$)
Player 1 chooses 9
Player 2 chooses 2
Player 1 chooses 1
Player 2 chooses 7 (Now has $6+2+7=15$)

Right! I'm off to get my crayon set with four colours in it!

Erk! I had those last week and broke all the points off.

And I threw them out of the window!



Q: Why didn't the two 4s want any dinner?
A: Because they already 8!

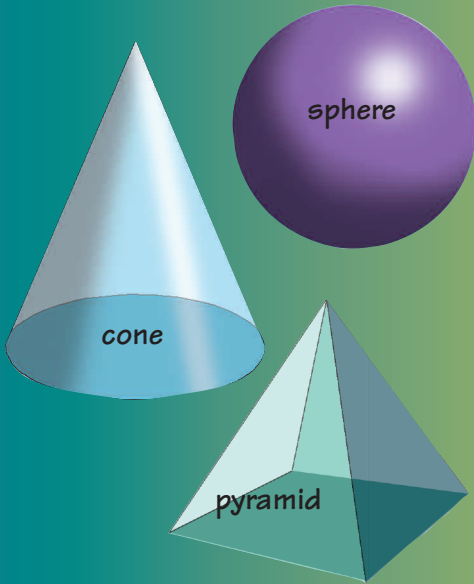
6

7

GEOMETRIC SHAPES

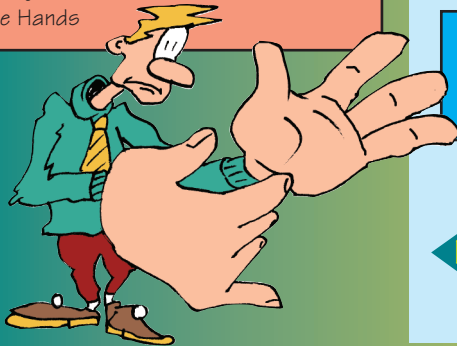
square, circle, rectangle, triangle, sphere, cube, cone, pyramid, cylinder, octagon, pentagon, heptagon, hexagon, triangular prism, triangular-based prism, rectangular prism, rectangular-based prism.

See how many shapes you can find in your house or on a walk.



Q: If you had 3 apples and 4 oranges in one hand and 3 apples and 3 oranges in other hand, what would you have?

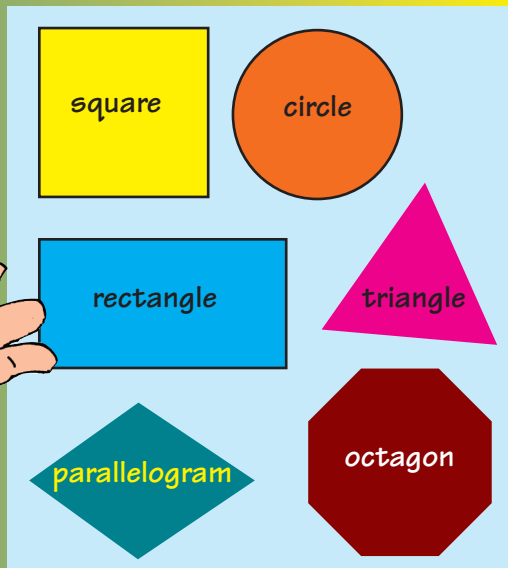
A: Very Large Hands



Luckily, I do actually have a little eye to spy with!

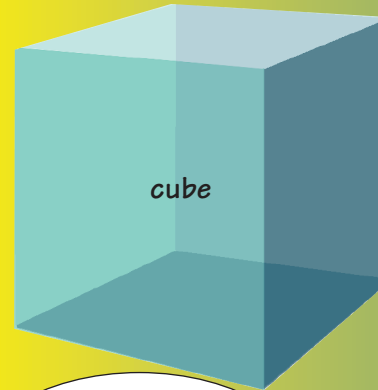
SHAPE I-SPY

Take it in turns to say, "I spy with my little eye, something that is...." Square shaped, round shaped, spherical, cube shaped etc. You can play this anywhere of course.

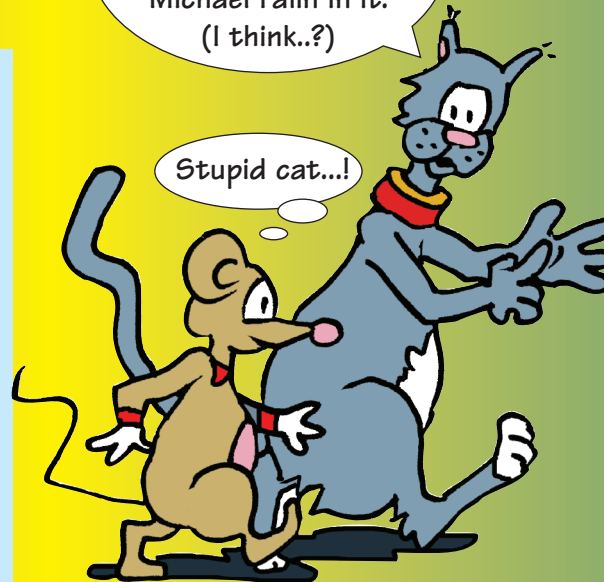


IMAGINE A SHAPE

Close your eyes and imagine there is a cube in front of you. See it in your mind. How many faces (sides) does it have? How many corners? How many edges? Seeing shapes in your head is very important in maths.



Well Fraction, a palindrome is a sort of aerodrome, but with Michael Palin in it. (I think..?)



Stupid cat...!

PALINDROMIC NUMBERS

A palindrome is a word which spells the same forwards and backwards - words like dad, kayak, madam. A palindromic number is one that reads the same forward or backward, such as 55, 828, 2992. If a number is not already palindromic, you can make it so by adding its reverse and repeating until it is palindromic. For example:

$$\begin{array}{r} 731 \\ + \text{its reverse } 137 \\ \hline 868 \end{array}$$

Sometimes you have to carry on for a lot longer.

$$\begin{array}{r} 398 \\ + \text{its reverse } 893 \\ \hline 1291 \\ + \text{its reverse } 1921 \\ \hline 3212 \\ + \text{its reverse } 2123 \\ \hline 5335 \end{array}$$

Now work out the palindromic numbers for 338, 69 and 89 (this one will test you out!)

MATTHEW MATTICK SAYS...

Palindromes exist in word and letter form too. For example "Mr Owl ate my metal worm" or "Able I was ere I saw Elba". Palindromes that make no sense can be hundreds of words long.

