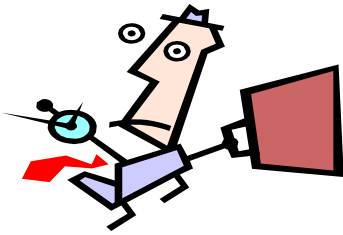
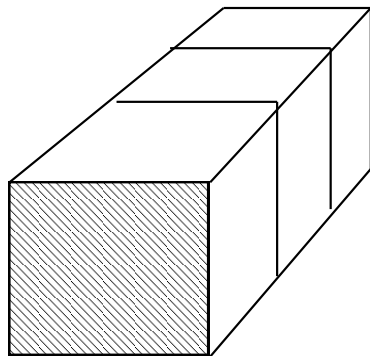


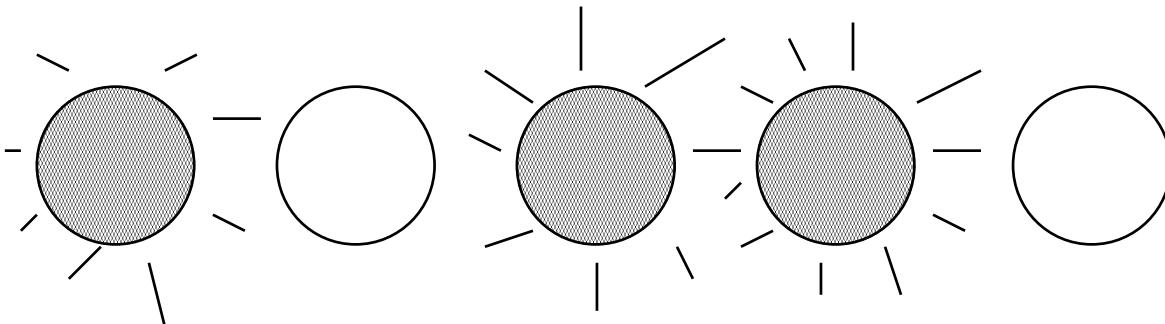
Problem Solving



- 29 A test question is marked out of 5. Only whole marks are awarded. Five boys answer the question and the **mode** of their marks is one more than the **median** which is one more than the **mean**. What mark did each of the 5 students get?
- 30 Dan placed 3 of his building blocks in a row on the floor with ends touching.



- a) How many faces would be visible? b) How many faces would not be visible?
c) How many faces would be visible if there were 70 blocks?
d) How many faces would be visible if there were 100 blocks?
- 31 A machine can give a signal by using 5 lights which are in a row. Each light can be either **on** or **off**. How many different signals are possible?



- 32 A block of land is rectangular in shape. Its perimeter is 150m and it is known to be 4 times longer than it is wide. Find its length and the area.
- 33 If you buy a goat for \$20, sell it for \$40, buy it back again for \$60 and sell it again for \$80. How much money have you gained or lost on the combined deals?
- 34 The mean of five boy's scores in an English test was 8. If Don scored 6, Matt, 10, Bruce 7 and Kev 7 what did Max score?
- 35 Suppose the first astronaut to land on Mars found numbers written in the following way:
- | | | |
|------|--------|--------------------------------------|
| ♣♣♣♦ | for 16 | |
| ♥♥♦ | for 51 | |
| ♥♦♦♦ | for 28 | How would 86 be written by Martians? |
- 36 If a mother is 38 years old and her daughter is 8 years old, in how many years will the mother be three times as old as the daughter?
- 37 In numbering the pages of a book, there are exactly 201 digits used (where 0,1,2,3,4,5,6,7,8,9 are the ONLY digits).
- How many pages has the book? How many times was 7 used?
- 38 In a pie eating contest a man ate a total of 100 pies in 5 hours. Each hour he ate 6 less than he did during the previous hour. How many pies did he eat during each hour?
- 39 Use your graphic calculator to find the fraction equivalent of 0.78958777.
- note $\frac{15}{19}$ $\frac{364}{461}$ are close see if you can get better!!!
- 40 Find the recurring digits for $\frac{1}{7}$ $\frac{3}{7}$ $\frac{5}{7}$ Similarly for $\frac{1}{13}$ $\frac{5}{13}$ $\frac{7}{13}$
- and $\frac{1}{17}$ $\frac{5}{17}$ $\frac{11}{17}$

41 A man fenced a square garden. On each side there are 10 posts. How many posts did he use? CAREFUL the answer is NOT 40!

42 There are 3 teams in a hockey comp. and each team plays both the other teams twice.

i) How many games are played altogether?

ii) A team gets 2 points for a win, 1 point for a draw and 0 points for a loss.
Complete the table to show the results of the comp.

TEAM	Games played	Games won	Games drawn	Games lost	points for wins	points for draws	total points
X	4	3			6	1	7
Y			1		4		
Z					0		

43 When you divide Brian's father's age by 2,3,4,5 or 6, the remainder is 1. If Brian's father is less than 100 years old, how old is he?

44 My son is five times as old as my daughter, and my wife is five times as old as my son, and I am twice as old as my wife, whereas Grannie, who is as old as all of us put together, is celebrating her eighty first birthday.
What is the age of each of us?

45 A snail is at the bottom of a 2m deep well and decides to make his way to the top. He climbs up 30cm each day only to slip back 20cm each night when he is asleep. How long does it take the snail to reach the top of the well?

46 Take the whole numbers from 1 through to 9 and put them into two straight lines so that the sum of each line is equal.

47 Billy and Bobby are given pocket money in different ways. Billy gets paid yearly, starting at \$105 and rising by \$10 each year. Bobby is to be paid half-yearly, starting at \$50 and rising \$5 each half year. Who has the better deal ?

48 70 Players enter the Macdouble Singles Championships.

How many matches would be necessary to get the champion ?