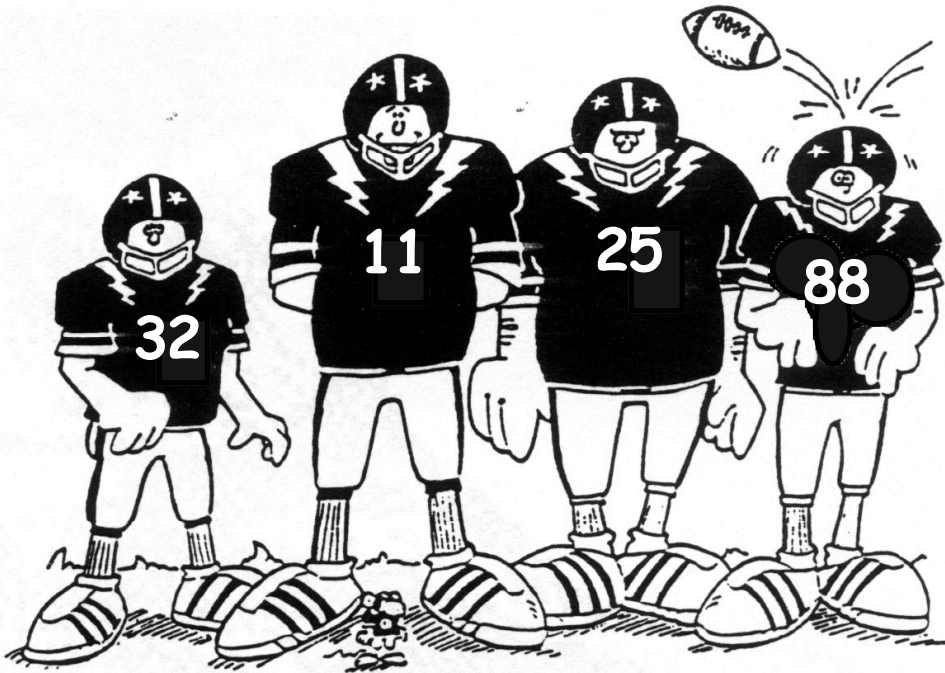


Who's Who ?



Identify the players.

Abe wears a number which is divisible by 8.

Bob wears an odd number.

Cal likes rock music.

Dom is standing next to Abe.

Abe is shorter than Dom.

Bob is taller than Dom.

Cal is shorter than everyone.

See the next page for the solution.

Who's Who Solution

Given

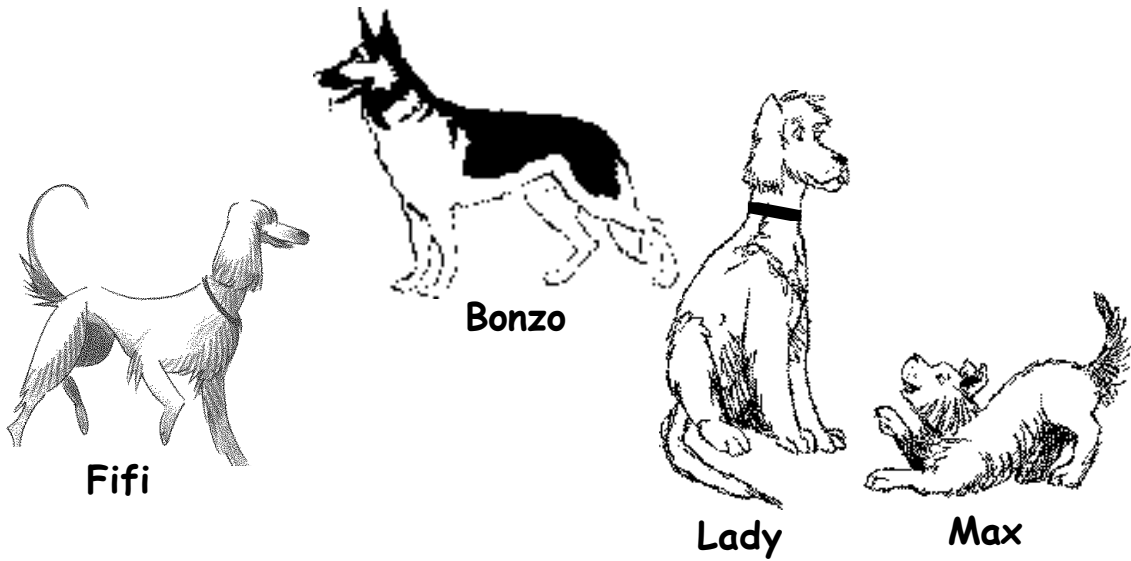
Conclusions

Abe's number is divisible by 8.	a	11 and 25 are not divisible by 8 so Abe's number must be 32 or 88.
Bob wears an odd number.	a	Bob must wear number 11 or 25.
Cal is shorter than everyone.	a	Cal must be number 32.
	a	Now since Cal is number 32, Abe must be number 88.
Dom is next to Abe.	a	Dom must be number 25.
	a	Only Bob left so Bob must be number 11.

Note: A table like the one below could have been used to store the information and help to solve the problem.

	32	11	25	88
Abe				
Bob				
Cal				
Dom				

Doggy Dilemma



Fifi, Bonzo, Lady and Max all wear different colours of collars.
All four dogs entered a competition.

Fifi wears a red collar.
Lady came next to the dog with the purple collar in the competition.
The dog with the yellow collar came first.
The dog with the purple collar came second.
The colours of Fifi's collar and Max's collar mix to form orange.

Find out the colour of each dog's collar and their position in the competition.

You may wish to use a table to help you. (See below)

	1st	2nd	3rd	4th	RED	PURPLE		
Fifi					✓	✗	✗	✗
Bonzo								
Lady								
Max								

Room Riddle

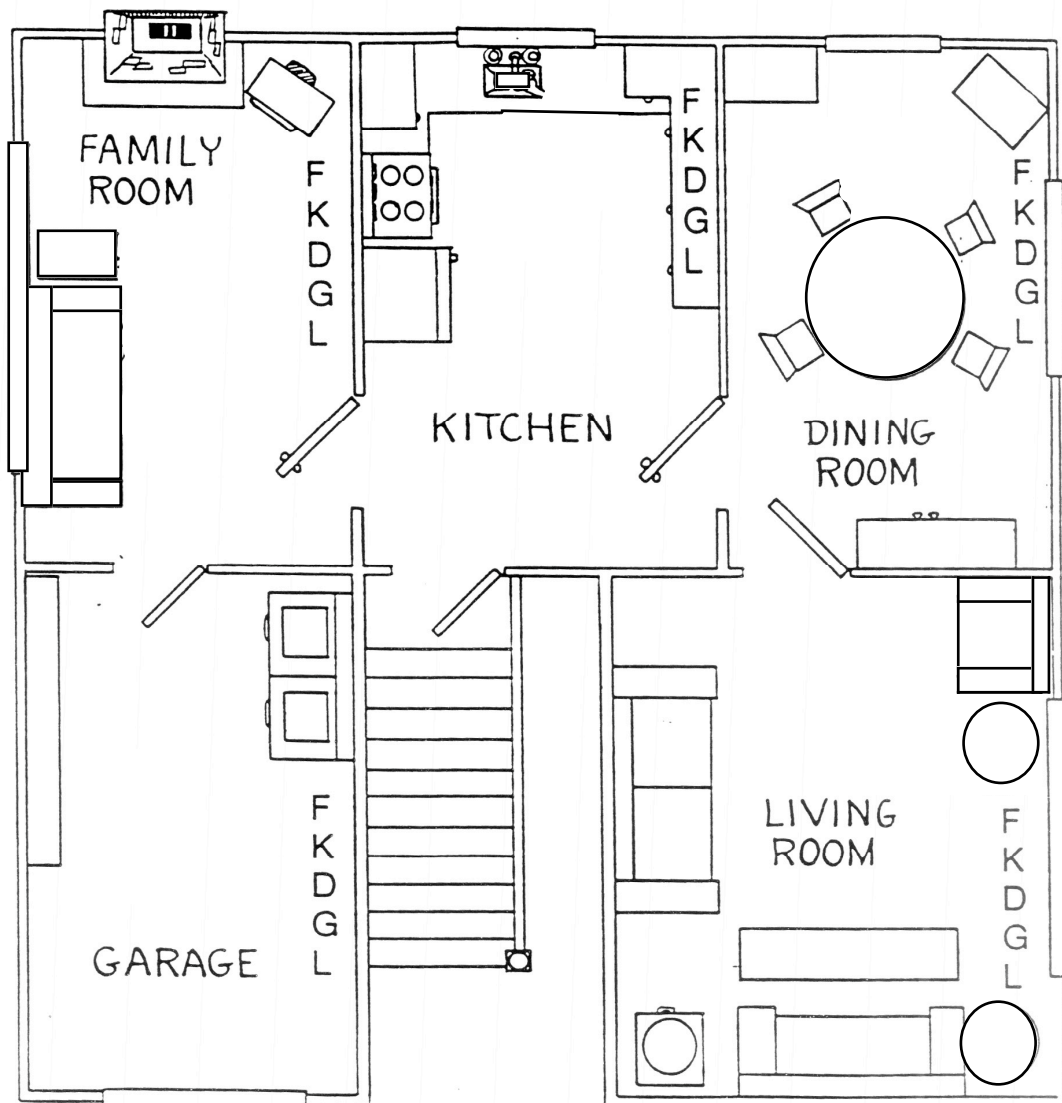
Fred, Kit, Denise, Geri and Larry are each in different rooms.
No one is in a room that starts with the same letter as their name.

Larry is using the sink.

Fred is setting the table.

Geri is in a room next to Larry and Kit.

Who is in each room ?



Sports Stars

Identify each of the four sports stars and their events.



Terri is the shortest.

The sprinter does not stand next to Terri.

The long jumper is best friend with the coach.

Carrie wears the largest number.

The hurdler stands next to the Sherri.

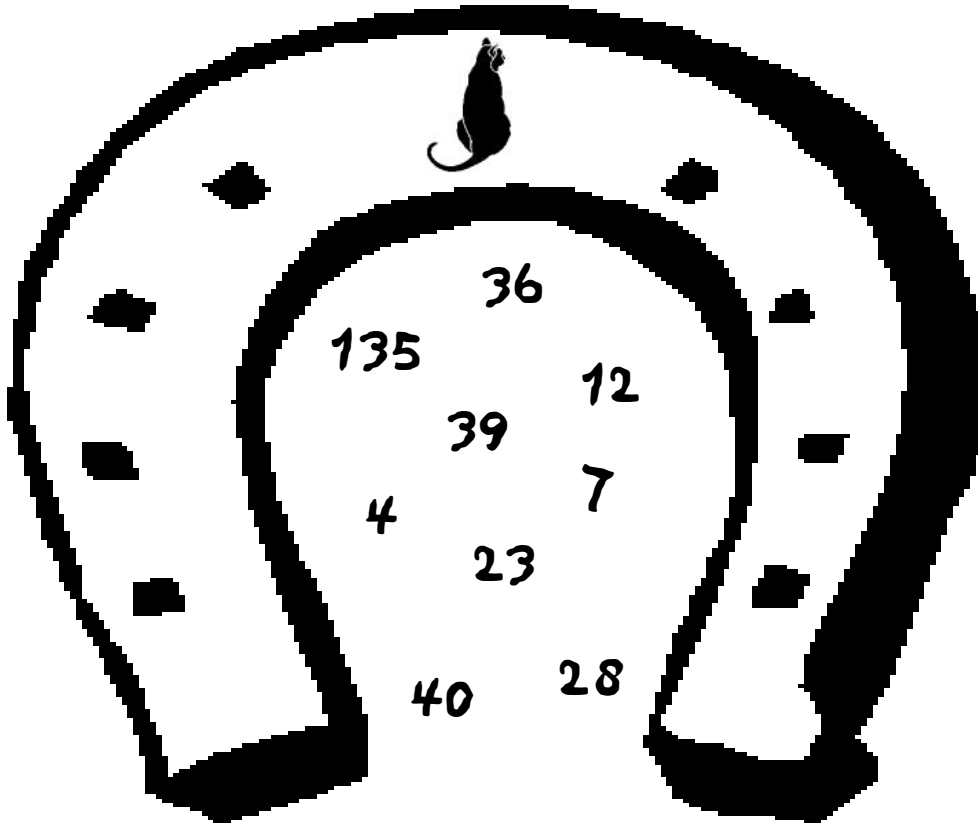
Sherri wears an even number.

The high jumper stands next to Carrie.

Marie's stands next to the sprinter.

Which, if any, of the above statements is not needed ?

Lucky Numbers



From the following statements can you identify each person's lucky number ?

Joe's number is a prime number.

Jane's number is five more than Pete's.

Pam's is a single digit number.

Jill's number is three times smaller than Jake's number.

Jane's number is divisible by Pam's number.

Jill's number is divisible by Pam's number.

Joe's number is smaller than Jill's number.

Which, if any, of these statements is not needed to solve the problem ?

Pick A Number

* 9135	* 5731	* 8361	* 7591	
5241	* 3715	* 5263	* 3175	*
* 2537	* 1693	* 5313	* 7621	
1935	* 9731	* 9371	* 5331	*
* 2537	* 1693	* 5313	* 5612	

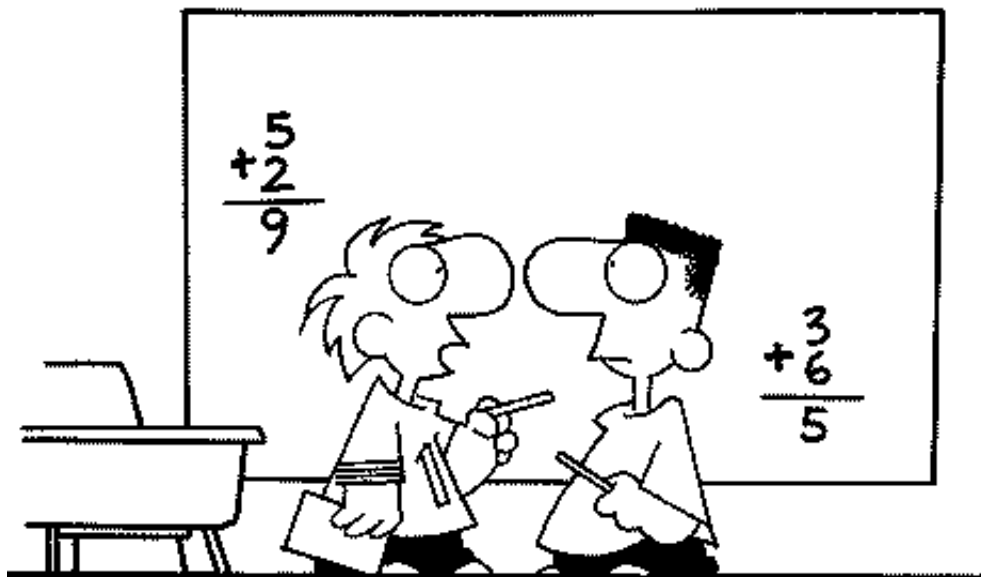
Find a number from the list above so that each of the following are true:

The sum of the first and last digits is the same as the sum of the middle two digits.

The four digits in the number are all different.

All the digits in the number are odd.

The units digit is the smallest natural number.



"My lawyer says I can sue the school because they're violating my right to be stupid."

Find The Number

The sum of a digits in a particular two digit number is seven.

If the digits are reversed the resulting number is 27 more than the original number.

What is the number ?

Solution

Using the information in the first statement we consider

70

61

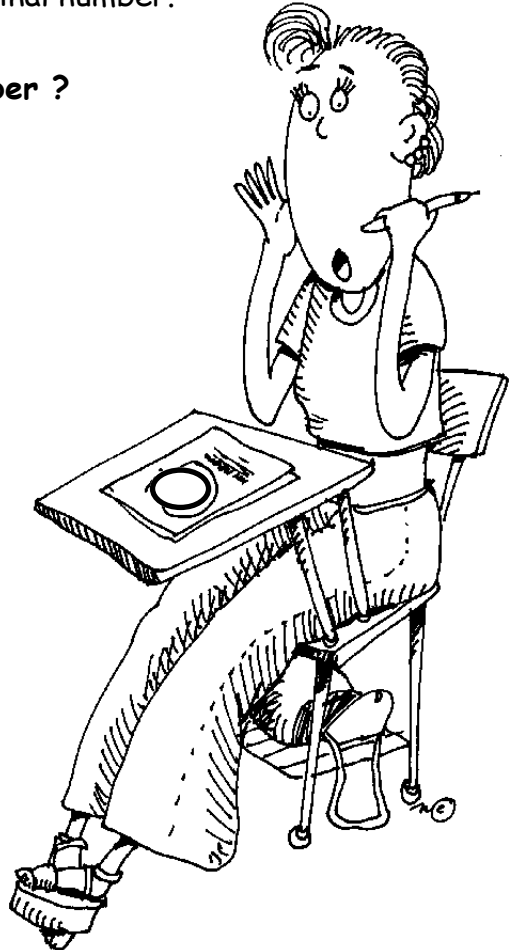
16

52

25

43

34



Now we check each out to see if it 'fits' the second statement.

$$70 - 07 = 63 \quad \times$$

$$61 - 16 = 45 \quad \times$$

$$52 - 25 = 27 \quad \checkmark$$

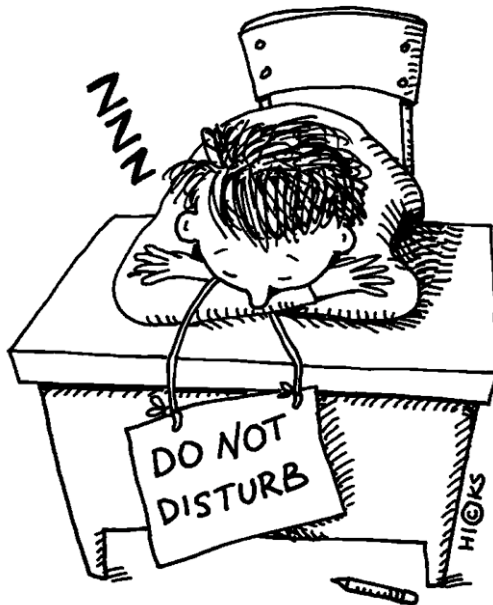
$$43 - 34 = 9 \quad \times$$

By being logical we have shown that there is only one correct solution, 25.

Now try the similar examples on the next page.

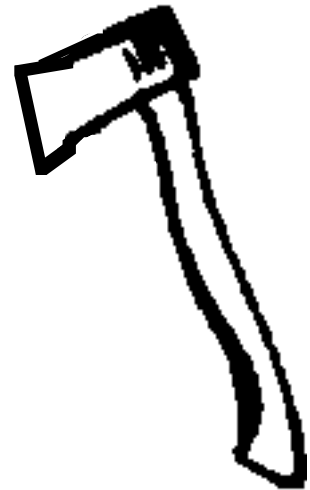
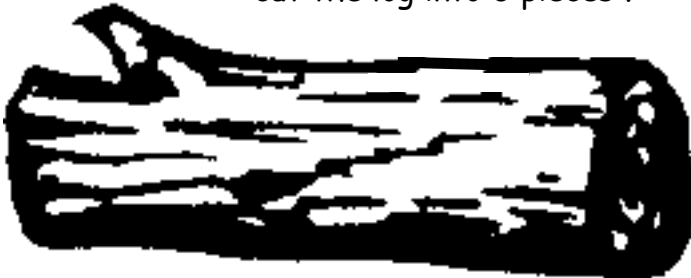
Find The Numbers

- 1 The sum of the digits of a two digit number is eleven.
If the smaller digit is taken away from
the larger digit the answer is five.
Find the number.
- 2 The sum of the digits of a two digit number is fourteen.
If the digits are reversed the resulting number
is eighteen less than the original number.
Find the number.
- 3 The sum of the digits of a three digit number is nine.
If the digits are reversed the resulting number
is 297 more than the original number.
The number is less than 250.
Find the number.



Log logic

If it takes 4 minutes to cut a log into 2 pieces, how long would it take to cut the log into 6 pieces ?

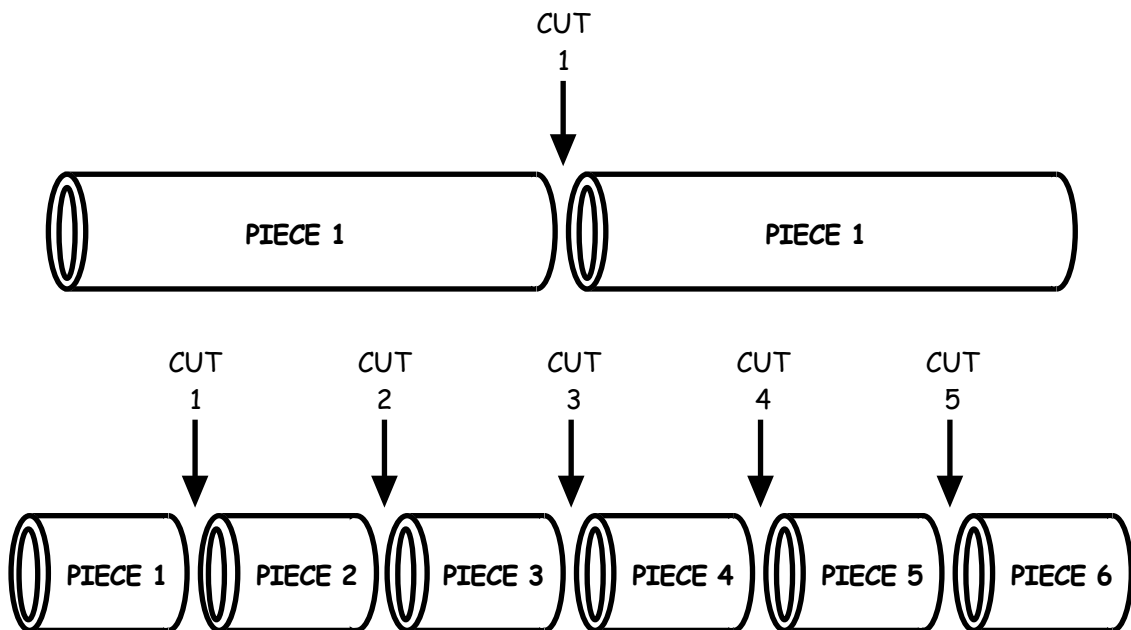


This problem seem easy to Mark. He says "It takes 2 minutes to cut the log into 2 pieces, so it will take 12 minutes (6×2 minutes) to cut the log into 6 pieces.

Megan says Mark is wrong. She says the answer is 20 minutes. (5×4 minutes)

Who is correct Mark or Megan ?

Check out the diagrams below to help you decide.



Problems

Make sure you look at the example on the previous page before you try these examples.

Draw a picture of the situation to help you.

- 1 If it takes ten minutes to cut a log into 2 pieces, how long would it take to cut the log into . . .

- a) 4 pieces
- b) 6 pieces
- c) 9 pieces ?



- 2 If it takes 12 minutes to cut a beam into 4 pieces, how long would it take to cut the beam into . . .

- a) 5 pieces
- b) 8 pieces
- c) 9 pieces ?



- 3 There are 10 lamp posts in a straight line. The distance between each pair of lamp posts is 10 metres. What is the total distance between the first and last lamp posts ?

- 4 A woman is standing in a queue. There are 3 people in front of her and 6 people behind her. How many people are in the queue ?

- 5 In its search for water a frog fell down a well 30 feet deep. Each day it managed to climb up 3 feet, but the following night it slipped back 2 feet.

How many days did it take the frog to get out of the well ?
(Note: the answer is not 30 days.)

