

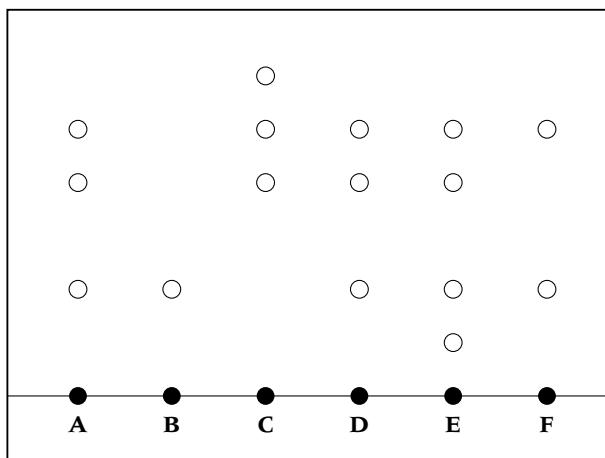
# Who scraped the gatepost?

Police were called to 10 Manor Road because there had been a burglary. There were some bits of red paint on the gatepost, and the police suspect that the robbers' car or van scraped against the gatepost when they were making their getaway.

A forensic science laboratory was asked to find out what make of car the burglars had used. Different car manufacturers use different mixtures of colours in their paint. The scientists used chromatography to find out the make of the getaway vehicle.



These are the results of the tests:



A = Paint from gatepost

B }  
to } Paint samples  
F }



- 1 The scientists did not use water as a solvent when they carried out their tests. Why not?
- 2 Which manufacturer (or manufacturers) used one pure colour in their red paint?
- 3 Which manufacturer (or manufacturers) used a mixture of only two colours?
- 4 Which manufacturer (or manufacturers) used a mixture of three colours?
- 5 Which manufacturer uses the same paint as the paint from the gatepost?

The chromatography test does not *prove* that the getaway vehicle was made by the manufacturer in your answer to question 5. Post Office vans are red, so the marks could have been made when a parcel was delivered.

- 6 How could you show that the paint did not come from a Post Office van?
- 7 If the police found a vehicle that they suspected had been used in the burglary, what could they check to see if they were right?

**S** knowledge, considering