Question One (15/2011)

Similar effects have similar causes. The problem is deciding when one set of effects sufficiently resembles another to infer a similar cause. You say that the universe resembles a man-made object like a house, so its cause must also be similar, an intelligent designer, resembling human beings. But is the universe so like a house? It seems to resemble an animal or vegetable just as closely, so why should its origin not lie in reproduction or some vegetative process? The universe contains many classes of effects and objects, all with their different causes. There seems to be no compelling reason for concluding that the universe as a whole resembles one of these classes of effects or objects more closely than another.

Which one of the following is a conclusion that can reliably be drawn from the above reasoning?

A The universe bears no resemblance to a man-made object like a house.
B The inference that the universe and man-made objects have similar causes is not justified.
C The world resembles a vegetable more closely than a house.
D The universe is not the result of intelligent design.
E The most likely origin of the universe is a reproductive process.

Question Two (16/2011)

At first glance, there is no phenomenon creepier than crop circles - huge geometric designs that appear in fields overnight seemingly without cause, explanation or reason. UFO enthusiasts are quick to supply all three, by attributing the patterns to alien visitors seeking to communicate with humans, using laser beams or other advanced technology to flatten the crops. These fanciful claims can fortunately be dismissed thanks to two quite mundane observations. Firstly, ordinary Earth-born individuals have repeatedly demonstrated how to produce the effects with nothing more elaborate than a rope and a plank. Secondly, there is a clear parallel for the phenomenon in the form of urban graffiti. Sneaking into fields to make crop circles is simply a rural variation of a widespread and well-documented human urge.

Which one of the following is an implicit, underlying assumption that is made by the above argument?

A Where two explanations compete we should accept the more ordinary one.
B There is nothing difficult or technical about producing crop circles.
C Alien visitors would not try to communicate with humans by flattening crops.
D No visits from intelligent aliens have as yet been documented.
E The appearance overnight of huge geometrical designs is creepy if it can not be explained.

Question Three (17/2011)

When you install a burglar alarm in your home, you do so presumably because the cost of the alarm is less than the expected benefits. The cost of a burglary, if one occurs, is likely to be

much higher than the cost of fitting an alarm. A clearly visible box on an outside wall of an alarmed house alerts and discourages potential thieves. Because your house is less likely to be burgled, your neighbour's house may be more vulnerable. Therefore, while there may be little impact on overall crime levels, expensive security devices reduce crimes against those with the devices but increase crimes against those without.

Which one of the following, if true, would most weaken the above argument?

A For similar houses, a higher percentage of those without intruder alarms are burgled than those with alarms.
B As the percentage of houses with intruder alarms increased from 40% to 90%, house burglary rates fell by 60% and there was a rise in street muggings of 100%.
C Burglars perceive an alarm as a signal that there are items well worth stealing in a house, while no alarm indicates less valuable contents.
D Only 60% of houses with alarms set the alarm every day.
E Burglars know that 25% of all visible alarm boxes are fakes, but cannot tell the fake from the genuine.

Question Four (20/2011)

20 The table below, from a newspaper, shows how much money ($) you will need at various points in the future to buy items costing $1000 today, depending on the annual rate of inflation.

Years	Average yearly rate of inflation			
	4 %	6 %	8 %	10 %
5	1217	1338	1469	1611
6	1265	1419	1587	1772
7	1316	1504	1714	1949
8	1369	1594	1851	2144
9	1423	1690	1999	2358
10	1480	1791	2159	2594
20	2191	3207	4661	6728
30	3423	5743	10063	17449
60	10520	32988	101257	304482

Raoul has just bought a new car for $10 000. He expects this car to last him 8 years, when he will buy another equivalent model. He puts $10 000 into a bank account ready to pay for the next car. The price of cars rises with inflation at 8% and his savings only earn interest of 6%.

How much will he need to add to his savings when he needs to buy his new car?

A $ 1612
B $ 2570
C $ 5338
D $ 5940
E $ 8510

Question Five (21/2011)

It would be a good idea if the police force was separated into two divisions, one for proper policing i.e. protecting citizens and upholding law and order, and the other for road traffic. This second division could be combined with traffic wardens as basically they are doing a similar job: obtaining money from road users. Perhaps then there would be a proper focus put on catching criminals and protecting the law-abiding public, and we would have a police force doing the job they were actually intended to do.

Which one of the following best describes the flaw in the above argument?

A It overlooks the fact that many traffic offences are both criminal and a serious danger to the public.
B It rests on the false assumption that the police do not protect citizens or catch criminals.
C It ignores the fact that traffic wardens and the police have different duties and different powers.
D It wrongly equates protecting citizens with catching criminals.
E It implies that the police once did the job they were supposed to do.

Question Six (22/2011)

If you practise playing a musical instrument, your playing will get better. I have not practised playing the piano, so my playing has not got better. I have an exam in two month's time. So I must practise every day if I want to do well.

Which of the following most closely parallels the reasoning in the argument?

A If you practise playing the cello your playing will get better. Dawn has not practised much but her playing has got better so she must have done enough. She may even pass her Grade III exam next month.
B If you work hard at a sport, you will become better. I have not worked hard at my trampolining, so I have not become better. There is a competition next month. So I must work hard if I want to do well.
C If you work hard at running you will get faster. I have worked hard to get faster, and I have started winning races. There is a race next week. If I want to win it I must keep practising.
D People who practise a craft get better at that craft. All master craftsmen and women have put long hours of practice into their art. It is impossible to become an expert without practising.
E Practise makes perfect. I have practised hard on my violin so I should soon be perfect. I have a competition coming up soon which I fully expect to win.

Question Seven (26/2011)

26 This table shows how household sizes in Great Britain changed between 1961 and 1991.

	Percentages			
	1961	1971	1981	1991
Household size				
1 person	14	18	22	27
2 people	30	32	32	34
3 people	23	19	17	16
4 people	18	17	18	16
5 people	9	8	7	5
6 or more people	7	6	4	2
Total number of households (millions)	16.2	18.2	19.5	21.9
Average household size (number of people)	3.1	2.9	2.7	2.5

What was the change in the percentage of households with fewer than 3 people between 1971 and 1991?

A   7
B   8
C   10
D   11
E   17

Question Eight (27/2011)

Britain's property market is in the midst of a full-scale slump with house prices falling at their fastest rate in 15 years, according to a new study. But why is there an assumption that continuing rises in house prices is a good thing? Why not see the fall in house prices as a welcome change? House prices as a percentage of income are grossly overpriced. Low interest rates and cheap mortgages have led to the property market, particularly in London, being overvalued. Surely this will make houses more affordable. First time buyers will be happy beneficiaries of a housing slump. Others finding a silver lining in the gloom are those in rural communities for whom a house had seemed simply out of reach.

Which one of the following is the main conclusion of the above argument?

A Low interest rates and cheap mortgages have led to an overvaluing of the property market.
B It is always assumed that continually rising house prices are a good thing.
C Rural communities will no longer find buying a house out of reach.

D Surely a slump in prices will make buying a house more affordable.
E We should view the fall in house prices as a good thing.

Question Nine (30/2011)

30 All the teams in a local football league have now played each other once this season. Below is the current league table:

	Played	Won	Drawn	Lost	Goals For	Goals Against
Rovers	4	4	0	0	7	2
United	4	2	1	1	2	1
County	4	1	2	1	4	4
Wanderers	4	1	0	3	3	5
City	4	0	1	3	1	5

What was the result of the match between United and County?

A   United 0   County 0

B   United 1   County 0

C   United 0   County 1

D   United 1   County 1

E   United 2   County 1

Question Ten (32/2011)

32 The following table shows the results of a test on smokers trying to quit. Of 240 people, half were given nicotine tablets and half were given a placebo (a substance containing no medication).

	Failed to quit	Succeeded in quitting	Total
Nicotine	64	56	**120**
Placebo	96	24	**120**
Total	**160**	**80**	**240**

The researchers assumed that: of the smokers given nicotine tablets, the same proportion would have quit without using them as would have quit using the placebo.

How many of the smokers that were given the nicotine tablets can the researchers conclude had quit due to taking the tablets?

A   16
B   32
C   39
D   40
E   45

Question Eleven (33/2011)

In a high speed police chase, police drivers sometimes lose sight of the car they are chasing. But that's no reason to give up. All they have to do is take the first left, and then the first left again. Pursued drivers are likely to keep taking turns as they come up, as this seems instinctively like the best way to lose someone who is following them. They are not going to turn right as this involves waiting and checking for oncoming traffic. Therefore take a couple of left turns and the police car will soon have their criminal in sight once again! Which of the following, if true, would strengthen this argument?

A Car chases tend to end with the pursued driver losing control of their vehicle.
B Drivers in TV car chases tend to turn left rather than right when pursued.
C Police drivers are usually able to sustain faster average speeds over a length of time than other drivers.
D Police drivers usually request overhead assistance from a helicopter when chasing criminals in cars.
E Two left turns might take the criminal where they want to be going

Open Questions:

Should all nation-states have the right to nuclear weapons?
What, if anything, is "free speech"?