

## **TSA Week 2 Series 2 Questions**

### **Question One** (Q1/11)

11% of nurses across the country would like to leave the profession. However, this figure rises to 39% amongst nurses who are working alternating shift systems, which mix day, evening and night shifts. It was found that many nurses preferred one type of shift most of the time, whether that involved working early, late or through the night. Employers should urgently review staffing arrangements to avoid the compulsory, alternating patterns. This would make nurses' working hours more compatible with their social and family lives. A further benefit would be a reduction in the cost of training new nurses to replace those leaving.

What is the best expression of the main conclusion of this argument?

- A The health service should adapt shift patterns to suit nurses in order to retain staff.
- B Alternating shift systems cause nurses to want leave the health service.
- C Many nurses prefer a regular pattern of work.
- D Some nurses would like to leave the profession no matter what their shift pattern.
- E 61% of nurses prefer alternating shift patterns.

### **Question Two** (Q2/11)

To play a football pools game, participants must select four matches from the fifty on the coupon. Points are scored depending on the result of each match as follows: If the home team wins, the participant scores 1.0 point If the away team wins, the participant scores 1.5 points If the match is a draw, the participant scores 3.0 points

Which of the following total scores for the four matches is not possible?

- A 8.5 points
- B 9.0 points
- C 9.5 points
- D 10.0 points
- E 10.5 points

### **Question Three** (Q3/11)

Some recent films have been very expensive to make, but have not been the big box-office hits that would have justified the expense. At the same time, there have been films made very cheaply which have been received with both huge critical and popular acclaim. Indeed, some directors who have made successful low-budget films have gone on to make unsuccessful but expensive films. It is obvious then that if directors want to make popular films, they should stick to low budgets.

Which one of the following is the best statement of the flaw in the argument above?

- A Critics are often wrong in their predictions about the popularity of films.
- B The cost of making a film is normally greater than its original budget.
- C The cost of a film need not be the factor that determines its popularity.
- D The popularity of a film would justify a high level of expense in making it.
- E The public does not necessarily know whether a film has been expensive or cheap to make

**Question Four** (Q5/11)

Cannabis smoking is widespread, even though it is illegal. It is also more dangerous to health than most people realise. If we want to reduce the use of cannabis, it should be legalised. People do not turn away from dangerous habits unless they are fully aware of the damage these habits can cause. We should have learnt this lesson from the example of tobacco smoking, which has declined dramatically because people have seen that it results in deaths from lung cancer.

Which one of the following is an assumption underlying the above argument?

- A People who still smoke tobacco are unaware that it can affect their health.
- B Unless cannabis smoking is legalised, its dangers will not be widely known.
- C If tobacco smoking had been illegal, it would have been less widespread.
- D There has been insufficient research on the damage caused by cannabis smoking.
- E Cannabis users are motivated by the fact that they are engaging in an illegal activity.

**Question Five** (Q6/11)

- 6 To encourage themselves to lose weight, Alma, Brigit, Cara, Danni and Evelyn each put £10 into a pot. They weighed themselves when they began and again at the end of each week. The one who had lost most weight after 4 weeks won the £50. The following chart shows their progress:

	<i>Alma</i>	<i>Brigit</i>	<i>Cara</i>	<i>Danni</i>	<i>Evelyn</i>
<i>Starting weight</i>	71kg	67kg	63½kg	66½kg	69kg
<i>Weight after week 1</i>	67kg	68kg	62kg	67kg	66kg
<i>Weight after week 2</i>	63½kg	66½kg	59kg	62kg	63½kg
<i>Weight after week 3</i>	61kg	66kg	58kg	61½kg	62kg
<i>Weight after week 4</i>	64kg	62kg	57½kg	60kg	61kg

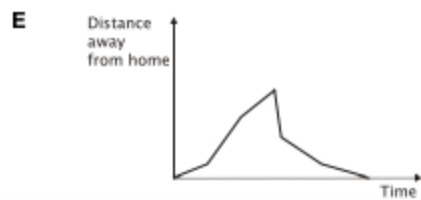
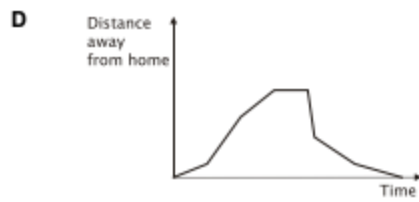
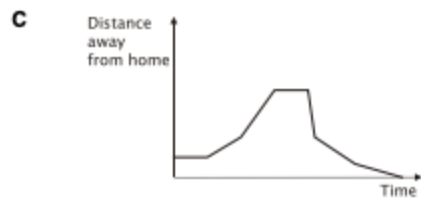
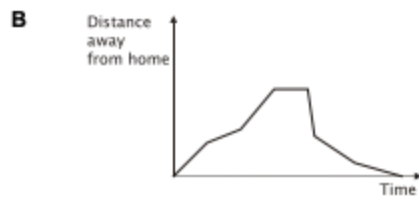
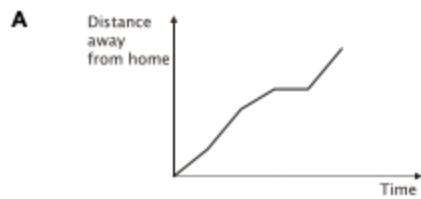
Who won the £50?

- A Alma
- B Brigit
- C Cara
- D Danni
- E Evelyn

**Question Six** (Q8/11)

- 8 A man drives off from his house and travels through the village at a constant speed. As he leaves the village behind, his speed increases to a new constant value which he maintains until he reaches a steep hill which slows him down. At the top of the hill the driver stops for a few minutes to admire the view. He realises that he has left his picnic basket at home and so drives rapidly back along his route to collect it.

Which one of the following graphs best represents the driver's distance from home throughout his journey?



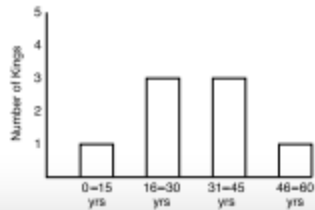
**Question Seven (Q7/11)**

- 7 Below is a list of the Angevin and Plantagenet kings of England and the dates of their reigns.

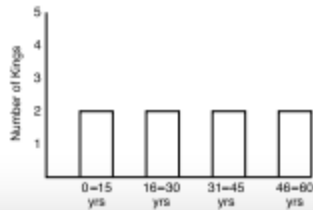
Monarch	Reign
Henry II	1154 - 1189
Richard I	1189 - 1199
John	1199 - 1216
Henry III	1216 - 1272
Edward I	1272 - 1307
Edward II	1307 - 1327
Edward III	1327 - 1377
Richard II	1377 - 1399

Which of the following bar charts represents a distribution of the lengths of the reigns of these kings?

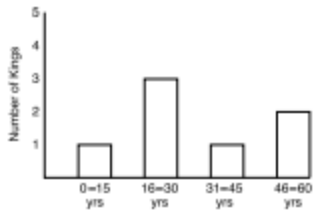
**A**



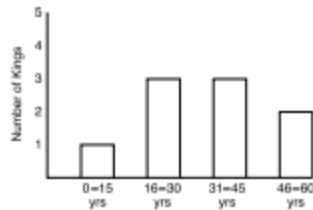
**B**



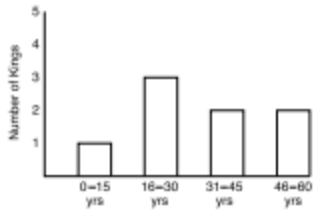
**C**



**D**



**E**



**Question Eight (Q12/2011)**

- 12 Jars of Bestcaff coffee weighing 200g are normally £2.50 at Kostless and Savemore, but both supermarkets have a special offer this week:

KOSTLESS BESTCAFF 80p OFF	SAVEMORE BESTCAFF 25% EXTRA FREE
---------------------------------	--

By how much per kilogram is Kostless's offer better value for money than Savemore's?

- A £1.50 per kg
- B £4.00 per kg
- C £7.00 per kg
- D £8.50 per kg
- E £16.00 per kg

**Question Nine** (Q13/2011)

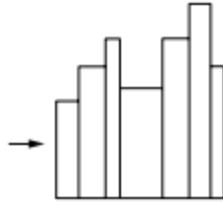
Country	area (sq km)	% of EU area	population density (people/sq km)
Austria	83858	1.90	99
Belgium	30510	0.70	344
Bulgaria	110912	2.50	70
Cyprus	9250	0.20	84
Czech Republic	78866	1.80	131
Denmark	43094	1.00	126
Estonia	45226	1.00	29
Finland	337030	7.60	16
France	643548	14.60	99
Germany	357021	8.10	231
Greece	131940	3.00	84
Hungary	93030	2.10	108
Ireland	70280	1.60	60
Italy	301320	6.80	196
Latvia	64589	1.50	35
Lithuania	65200	1.50	52
Luxembourg	2586	0.10	181
Malta	316	0.00	1261
Netherlands	41526	0.90	394
Poland	312685	7.10	122
Portugal	92931	2.10	114
Romania	238391	5.40	91
Spain	504782	11.40	87
Slovakia	48845	1.10	111
Slovenia	20253	0.50	99
Sweden	449964	10.20	20
United Kingdom	244820	5.50	246
<b>European Union</b>	<b>4422773</b>	<b>100.00</b>	

What is the minimum number of countries needed to make up at least 50% of the total land area?

- A 5
- B 6
- C 7
- D 11
- E 22

**Question Ten (Q14/11)**

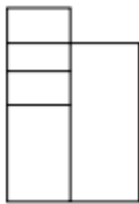
- 14 There are seven books on my shelf, which are of various sizes. When I look at them straight on I see the following picture:



I now look at them from the left-hand end (in the direction of the arrow).

Which one of the following diagrams is **not** a possible view when seen from the left-hand end?

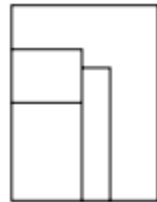
A



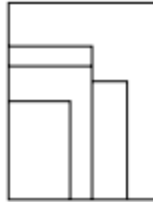
B



C



D



E



### **Question Eleven** (Q18/2011)

- 18 Dates may be written in an eight digit form. For instance, 19 January 2005 may be written 19-01-2005.

In what year will the next date occur for which all eight digits are different?

- A 2013
- B 2134
- C 2145
- D 2345
- E 2456



## Question Twelve (Q20/11)

- 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

## Open Questions

1. Should we allow 3D printers in householders? Why or why not?
2. Should we ban the sale of violent videogames? Why or why not?