

Question One

Did not cause too much difficulty; the only plausible answers are C and E. E is the better answer because it is a better representation of the final two sentences of the argument, whereas C is *true* but not necessarily a *conclusion*.

Question Two

Nice and simple question! Tim pays \$3000. Go down the list and work out how much others pay; the answer is David, as $0.06 \times 50,000 = \%3000$. Therefore C

Question Three

Add up the amount in unit² of red space; as you know the white part is a square, the height of the flag is 2 units. Therefore you have $(1 \times 2) + (1 \times 2)$ [for the rectangles on the sides, making 4 unit²] and then a quarter of the square in the middle which is (2×2) , making 1 unit². Therefore, there are 5 units of red. The amount of white must be three quarters of the square, which is $\frac{3}{4}$ of (2×2) , which is 3. Therefore, the ratio is 5:3 and the answer is D.

Question Four

Slightly tricky. The easiest way to do this is to see that, if you turn them on simultaneously at 0 seconds, they will next be both turned on again after 4s, so the repeating pattern looks like:

Light 1: YN**Y**NYNYNYNY**N**

Light 2: Y**Y**NNY**Y**NNY**Y**NN

As we can see, there is one second in every 4s-cycle where both are off. Since there are 15 4s-cycles in a minute, we know there are therefore 15 seconds where both lights are off. Therefore, C.

Question Five

Looks difficult on the face of it, but you need more common sense than mathematical ability. You're looking for the smallest fraction.

You know immediately that it cannot be Uppsala-Stockholm, because $\frac{6}{72} > \frac{6}{75}$ (Karis-Helsinki). You also know that $\frac{14}{56}$ (Luton-London) and $\frac{8}{69}$ (Brandenburg-Berlin) are both $> \frac{6}{75}$, because the numerator is larger and the denominator is smaller.

So now you have to work out which is smaller: $\frac{6}{75}$ or $\frac{5}{46}$. Since the denominator of the second is a *lot* smaller and the numerator is only a little bit smaller, you should be able to work out that $\frac{6}{75}$ will be smaller.

Therefore, the answer is C: Karis - Helsinki.

Question Six

You can write out some basic statements:

Car 2 is newer, more expensive, faster, bigger

Car 1 is older, cheaper, slower, and smaller

You can immediately see that B is false.

Question Seven

Definitely the hardest question and very few people got it right! It is another causation-correlation fallacy. It's easiest to show it by example.

- (1) People who are rich are 4x more likely to buy a Ferrari.
- (2) People who own a Ferrari on average have better health, are happier, get more holidays.
- (3) Therefore, if I want to be healthier, happier, and have more holiday, I should buy a Ferrari

Hopefully here the mistake is clear: people aren't healthy and happy because they have a Ferrari; they are healthy and happy because they are rich!

Here, all the benefits mentioned (health, happiness, holiday time) are better explained by people being wealthy - you can afford to go to the doctor, buy nice things, take time off work, and not worry too much about basic amenities like e.g. rent!

Question Eight

Nice simple Lowest Common Multiple question with a twist. LCM of 3, 5, and 6 is 30. In 30 minutes, Alec runs 10 laps and Barry runs 6. Therefore, the difference is 4.

Question Nine

One quick way is to run through the numbers in your head while you actually look at the outline. You'll notice that the bottom-right line is the most used, and only does not feature in 2. By contrast, the bottom left one only lights up three times (on 2, 6, and 8).

Question Ten

You eat 20% (50g) of 250g, which were almonds, so you are left with a 200g bag. Previously, the maximum amount of peanuts was 40% of the bag. 40% of 250 is 100g. So now you have 100g/200g, which is 50%.

Q11

Good answers to both questions. The duelling one is slightly left-field. The best answers touched on how the justice and courts system operate to resolve disputes and that duelling would likely supercede this, and the principle of justice not being determined by relative strength of fighting ability. Other good points questioned why boxing was legal and what limits there should be on two consenting adults

Immigration: a very big topic. The best approach here was to start small and build up: you might be able to refuse immigration if a person is a criminal, or has an arrest warrant, or is coming to commit crimes (in particular terrorism). This then moved into further questions about what degree of certainty was required to deny entry and what role asylum/moral concerns should play.