

TSA W5 Questions

Question One (1)

Like other booming cities, including New York, London has thrived amid globalisation. It is growing by 100 000 new residents a year. However, if London has given striving people plenty of reasons to come, it has done a poor job of housing them. The median price of a London home has tripled over the past two decades. Since 2001 the disposable income of people renting property has fallen by 30 per cent as a result. Businesses are worried too. Commercial property in central London is twice as expensive as in New York. Productivity has begun to slow as promising firms are forced out. Overpriced property is costing London the economic and human diversity on which its prosperity depends.

Which one of the following best expresses the main conclusion of the above argument?

- A London needs striving people in order to prosper.
- B Londoners in rented homes have 30 per cent less to spend.
- C London has done a poor job of housing its new residents.
- D Businesses are worried by the recent slowdown in productivity.
- E Expensive property is costing London the diversity it needs to prosper.

Question Two (2)

- 2 Each region in the country of Bolandia sets its own tax rate which applies to the whole of an individual's annual income.

Below is a table showing tax information relating to six different people.

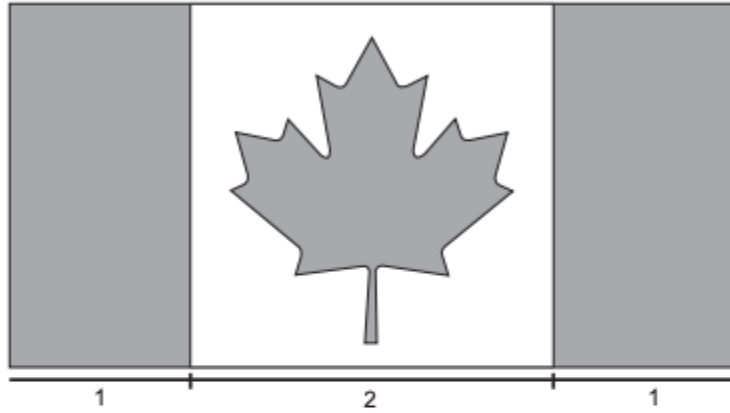
<i>name</i>	<i>region</i>	<i>annual income</i>	<i>tax rate</i>
Tim	North	\$10 000	30%
Neil	Central	\$20 000	25%
Veronica	West	\$150 000	3%
David	North West	\$50 000	6%
Amy	East	\$80 000	5%
Roz	Frontier	\$12 000	30%

Who pays the same amount of tax in a year as Tim?

- A Neil
- B Veronica
- C David
- D Amy
- E Roz

Question Three (6)

- 6 Below is a greyscale image of the flag of Canada. The flag consists of two red strips on the left and the right, a white square in the middle, and a red maple leaf in the centre.



[diagram not to scale]

The width of the white square is twice as large as the width of a red strip. The red maple leaf occupies a quarter of the square in the middle.

What is the ratio of red to white in the flag?

- A 1 : 1
- B 2 : 1
- C 3 : 2
- D 5 : 3
- E 5 : 4

Question Four (12)

When riding my bike in the dark, I use two rear bike lamps. Both of the lamps are in 'flashing mode', which means that they repeatedly emit light for a set period of time at set intervals. The reasons for using two lights are that it reduces the amount of time when neither of the lamps emit light, and that if one of the lamps stops working, other road users can still see me on the road. One of the lamps shines for one second and goes dark for one second repeatedly; the other lamp shines for two seconds and goes dark for two seconds repeatedly. I always turn both lamps on simultaneously at the start of my ride.

For how many seconds in each minute do neither of the lamps shine when they are in use?

- A 10
- B 12

- C 15
- D 20
- E 30

Question Five (13)

- 13 The following table compares five selected commuting routes in different European countries with respect to the length of the journey and the monthly cost of a season ticket as a percentage of average monthly wages.

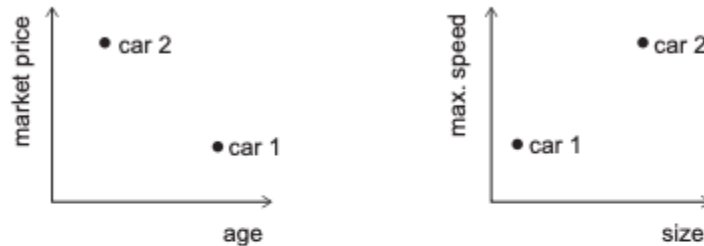
comparison of selected commuting routes			
<i>journey</i>	<i>country</i>	<i>length (km)</i>	<i>cost as a percentage of average monthly wages</i>
Luton–London	UK	56	14
Brandenburg–Berlin	Germany	69	8
Karis–Helsinki	Finland	75	6
Uppsala–Stockholm	Sweden	72	6
Drogheda–Dublin	Ireland	46	5

On average, the commuters of which route spend the lowest proportion of their wages per kilometre of the route?

- A Luton–London
- B Brandenburg–Berlin
- C Karis–Helsinki
- D Uppsala–Stockholm
- E Drogheda–Dublin

Question Six

14 Peter has drawn two diagrams showing information about the two cars owned by his parents:



Which one of the following statements is **not** correct?

- A The more expensive car is newer.
- B The cheaper car is bigger.
- C The older car is slower.
- D The newer car is bigger.
- E The slower car is smaller.

Question Seven

Despite the recent decline in numbers of people getting married, it appears that there is still much to recommend it. Married people are happier, wealthier and live longer. Husbands and wives have a lower risk of disease and a higher life expectancy. They smoke less, drink less and eat more healthily. Those who get married and stay married have on average double the amount of wealth of those who never marry. Surveys show that they are happier than single people and less likely to experience mid-life depression. Married couples benefit from stronger networks of support, with relatives providing more care and assistance in old age and in times of need.

Finding and committing to a marriage partner is a goal well worth pursuing. Which one of the following, if true, most weakens the above reasoning?

- A Research suggests that being married boosts the chances of surviving cancer.
- B Statistics on marriage do not differentiate between those who have children and those who do not.
- C In many countries, being married gives advantages in terms of tax payments.
- D Individuals in conflict-ridden relationships are more prone to illness than happy couples.
- E Wealthier couples are four times more likely to marry than poorer couples.

Question Eight

Three friends are training to run a marathon. Part of this training involves running steadily round a track in the local park. They are all at different stages in their training schedules so they run at different speeds. Alec completes each lap in 3 minutes, Barry takes 5 minutes and Colin takes 6 minutes. They all leave the start line at the same time.

If they each maintain their running speed throughout the session, how many more laps will Alec have completed compared to Barry when the three of them next cross the start line together?

- A 2
- B 4
- C 5
- D 6
- E 10

Question Nine

- 24 A digital display consists of seven segments which light up in different combinations to produce digits. For example, to display the digit '1' the two right-hand segments light up as shown:



The display is used to show, in sequence, each of the digits 1 to 9.

What is the maximum and minimum number of times that any one segment lights up during this sequence?

	<i>maximum</i>	<i>minimum</i>
A	7	4
B	7	5
C	8	3
D	8	5
E	9	4

Question 10 (49)

49 A 250 g bag of mixed nuts lists the contents on the packet as follows:

<i>nut</i>	<i>content</i>
almonds	20-30%
brazil nuts	10-20%
hazelnuts	5-15%
peanuts	30-40%
pecans	10-20%

As they are my favourite, I eat all the almonds in the packet and then re-weigh it. I find that the almond content was the minimum it could have been whilst being consistent with the labelling.

What is the largest possible peanut content of the nuts remaining in the bag after I have eaten the almonds?

- A 40%
- B 48%
- C 50%
- D 57%
- E 60%

Question 11

Should we legalise duelling?

What, if any, limitations on immigration are defensible?