

- 22 'Internet addiction' is about to be classified as a recognised psychiatric disorder. Internet addiction is characterised by a number of signs: excessive use of the internet; anger or depression if access is lost; isolation from friends and family; and, most significantly, poor educational achievement. This should make us cautious about incorporating computer-based learning into all aspects of education. Educationalists should consider the long-term problems associated with extensive internet use as well as its immediate attractions. Which one of the following is an assumption of the above argument?
- (A) Students are unable to regulate their internet use.
 - (B) All computer-based learning includes internet use.
 - (C) Excessive internet use is the only cause of poor educational achievement.
 - (D) Classifying internet addiction as a recognised psychiatric disorder will help lead to a cure.
 - (E) It is a bad idea to incorporate computer-based learning into education.
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- 23 One of the populations with the highest life expectancy is Iceland. The people there are very healthy, as indicated by the low incidence of diabetes, obesity, heart disease and diet related cancers. Their diet is rich in good quality local fish, and meat and dairy products from grass fed animals. The fish and meat is all caught, produced and processed on a small scale. If we want to live long and healthy lives we should adopt the Icelanders' diet. Which one of the following is the best statement of the flaw in the above argument?
- (A) Vegetarians may not be able to live on an Icelandic diet.
 - (B) There may be insufficient space in many countries to raise grass fed animals.
 - (C) The Icelandic diet may be prohibitively expensive elsewhere.
 - (D) People may not like being told what they should eat.
 - (E) There may be other reasons for the Icelanders' health and longevity.
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- 24 A leaking undersea oil well in the USA caused massive damage to wildlife and was extremely expensive to clear up. Worst of all, it destroyed the livelihoods of poor people living in the area. Despite this, in the developed world we still don't take seriously the risks of deepwater drilling. Until we can be satisfied that regulation is effective and that oil companies are operating safely, deepwater drilling should be banned. Which one of the following, if true, most weakens the above argument?
- (A) A ban on deepwater drilling would cause oil prices to rise, which would affect poor people most.
 - (B) The risks of deepwater drilling were known prior to the accident in the USA.
 - (C) Oil companies involved in the accident in the USA paid money to compensate the victims.
 - (D) Alternatives to fossil fuels may eventually be able to meet our energy needs.
 - (E) Oil companies will operate more safely in future than they did before the accident in the USA.
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- 25 A train is travelling at 30mph towards a terminus which is 120 miles away. At the same time, a pigeon starts flying from the terminus towards the train. When it meets the train, it turns and flies back towards the terminus and, when it arrives there, it turns and flies back towards the train again. The pigeon flies at an average speed of 40mph. The pigeon continues to do this until the train reaches the terminus. Assuming that no time was lost in each turnaround, how far (to the nearest 10 miles) does the pigeon fly altogether?
- (A) 120 miles
 - (B) 140 miles
 - (C) 160 miles
 - (D) 180 miles
 - (E) 240 miles

- 26 Mr and Mrs Massa's rectangular lawn measures 10 metres by 6 metres. They pay Giovanni to cut the grass and trim the edges. Giovanni charges a fixed rate per square metre of grass to be cut and another fixed rate per metre of edge to be trimmed. For Mr and Mrs Massa's lawn, this results in a charge of \$12 to cut the grass and \$8 to trim the edges. Now, Mr and Mrs Costa next door want Giovanni to do the same for them. Their lawn is also rectangular and measures 15 metres by 9 metres. If he charges them at the same rate as the Massas, how much will Giovanni charge Mr and Mrs Costa, in total, for cutting their grass and trimming their edges?
- A \$30
 - B \$35
 - C \$36
 - D \$39
 - E \$45

- 27 The government is considering changing the law to assume consent for the donation of organs after death. People opposed to the idea would have to deliberately 'opt out' of the scheme, although relatives would still be consulted. The supply of healthy organs available for transplant would be vastly increased under this scheme. If the government really wants to improve the lives of people with long-term health problems, this is a measure it must take.

Which one of the following, if true, would most strengthen the argument in the passage above?

- A The number of voluntary organ donors is small and not increasing.
- B Bereaved relatives find donation decisions very distressing.
- C There would be opposition by civil liberties groups to this measure.
- D Not all of the organs donated are suitable for transplant.
- E It is not known how many people would 'opt out' of the compulsory scheme.

- 28 Children born in Japan today can expect to live five years longer than their American counterparts. Life expectancy has been rising in all countries, but the slowest rate of increase has been in the USA. What could account for this, given that the percentage of people who smoke is roughly the same in all rich countries? Of course, the USA is the birthplace of fast food restaurants that sell unhealthy food. Moreover, a recent survey of American lifestyles has found that overeating and failure to exercise are widespread amongst the population. So we must assume that obesity and lack of exercise have caused the USA to lag behind in the increase in life expectancy.

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

- A Most rich countries have the same standard of medical expertise.
- B Japanese children had a healthier diet in the 1960s than they do today.
- C American fast food restaurants are now found in most rich countries.
- D In the 1960s and 1970s the USA had the highest percentage of smokers.
- E The USA spends more money on fast food than any other nation.

- 29 Find the opposite of the word *asleep*.

- A Ready
- B Awake
- C Alike
- D Willing
- E Awful

- 30 David normally takes 45 minutes to walk at a steady speed in a straight line from his house, past his friend Barry's house and then past a shop to reach his college.

Today, however, he stopped at Barry's house on the way and had to wait 3 minutes for him to be ready to leave. They stopped at the shop to buy their lunch, which took another 3 minutes.

It normally takes David 20 minutes to walk from his home directly to the shop and Barry normally takes 32 minutes to walk directly from his home to the college and they both walk at the same steady speed.

How long does it take them to walk from Barry's house to the shop?

- A 1 minute
 - B 4 minutes
 - C 7 minutes
 - D 10 minutes
 - E 13 minutes
- 31 Children need to play in order to develop their thinking skills. When children play, they are merely going through scenarios, working out the consequences and implications of actions, puzzling out what might happen – the very same processes that adults have learned to do in their heads, the process more commonly known as 'thinking'. It follows that thinking and playing are really one and the same thing.

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

- A Playing is just an early version of abstract thinking and reasoning.
 - B Children need to be allowed to play in order to develop their thinking skills.
 - C Playing and thinking are essentially two forms of the same activity.
 - D Children need to be taught how to think about the future.
 - E Children who do not play will not be good thinkers.
- 32 While some animal rights activists have long accepted that there is a link between bovine tuberculosis (TB in cattle) and badgers, others have argued that it was not proven. They felt that the culling of badgers to stop the spread of TB in cattle was not justified if a link was unproven. But direct evidence of the transmission of TB between badgers and cattle has now been found. DNA sequencing of the TB bacteria in cattle and in badgers has shown that the disease crosses species barriers. This latest discovery completely undermines the case of those who have opposed badger culling. To protect farmers from severe loss of their cattle and hence their livelihoods – and to protect one of our primary sources of meat and milk – the badger population should be culled.

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

- A Not all farmers are convinced that the culling of badgers would stop the spread of TB.
- B There may be factors other than badgers, such as the movement of cattle, which contribute to the spread of TB in cattle.
- C Animal rights activists are interested in the protection of badgers per se, whatever risk they pose.
- D It is too expensive and logistically difficult to vaccinate all cattle against TB.
- E Badger culling would be unpopular with a substantial number of people.

- 33 Car drivers understandably become very annoyed at high sales taxes on fuel. In the interests of fairness, money raised from fuel taxes should be spent on maintaining roads or even on subsidising public transport. In fact much of it is put to other uses, such as providing healthcare or improving national defence.

Which one of the following is an application of the principle underlying the above argument?

- A There should be no sales taxes on consumer goods.
- B Better transport is more important than national defence.
- C Profits from sporting events should be spent on encouraging people to participate in sport.
- D Money raised by taxing fuel should be spent on improving roads rather than on public transport.
- E Maintaining roads should be a higher priority than spending on healthcare.

- 34 Widespread underage drinking in certain countries prompted their governments to place restrictions on selling alcohol to young people. The aim was to protect young people's health, but the result was not as intended. Soon after the restrictions were in place, hospitals saw several cases of young people becoming ill as a result of drinking alcohol-based liquids such as medical spirits, ethanol solutions and perfumes. The young people claimed that the restriction on legal alcohol was the main reason they were drinking other substances. If the restrictions were abolished, the health risk would be reduced.

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

- A It assumes that restrictions encourage young people to drink alcohol.
- B It does not take into account the social and cultural importance of drinking alcohol.
- C It ignores the fact that if there had been no restrictions more young people would have suffered from drinking alcohol.
- D It ignores the role of education in encouraging young people to drink alcohol responsibly.
- E It ignores the problem of people drinking dangerous substances because they cannot afford to buy alcohol legally.

- 35 I recently received a publications list and order form. I want to order seven items from the list. However, I noticed that the structure of the postage and packaging charges was very strange, as shown in the table below:

number of items	cost of postage and packaging
1	55p
2	70p
3	95p
4	£1.30
5	£1.60
6 or more	£3.30

I have decided that I will ask them to pack my order in the number of parcels that will have the lowest postal charge.

What is the lowest postal charge for my seven items?

- A £1.90
- B £2.25
- C £2.35
- D £2.45
- E £3.30

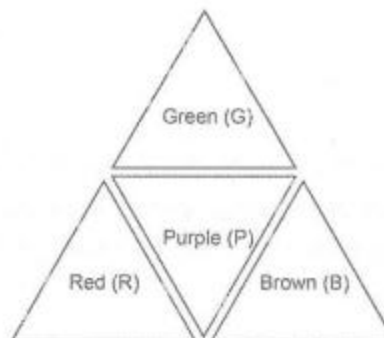
- 36 In a family, each of the six children has one packet of crisps on each weekday (Monday to Friday) for their packed lunch. The triplets have Cheese flavoured crisps, the twins have Paprika flavoured crisps, and the oldest child always has Chilli flavoured crisps. The exact number of packets of crisps needed are purchased at the same time for the four-week period. The table below shows the price of single packets of crisps and multipacks of crisps of the same flavour. A multipack is a discounted collection of a number of single packets of one flavour.

packet type	price
single packets	£ 0.50
multipack of 6	£ 2.50
multipack of 12	£ 4.50
multipack of 24	£ 8.50
multipack of 36	£ 12.50

What is the most money that can be saved for the four weeks by purchasing the appropriate combination of multipacks and single packs of the different flavours rather than all single packs?

- A** £ 8.00 **B** £ 16.50 **C** £ 18.00 **D** £ 23.50 **E** £ 43.50

- 37 A regular tetrahedron is made by fastening together four triangles made from card coloured on one side only, as shown in the diagram below.



Which one of the following is NOT a possible view of this tetrahedron when looked at from above?

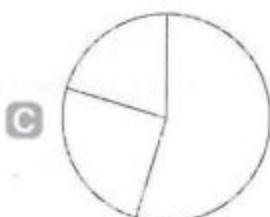
- A**
- B**
- C**
- D**
- E**

- 38** Alpha, Beta and Gamma are the three political parties in the Parliament.
There are 360 seats in the Parliament. Before last week's General Election, each party held 120 seats.

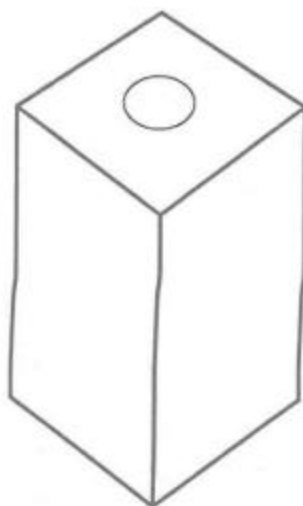
In last week's election:

- There was no change in 216 seats.
- Alpha gained 15 seats from Beta and 23 seats from Gamma. Beta gained 31 seats from Alpha and 41 seats from Gamma. Gamma gained 24 seats from Alpha and 10 seats from Beta.

Which pie chart, suitably labelled, shows the current state of the parties in the Parliament?



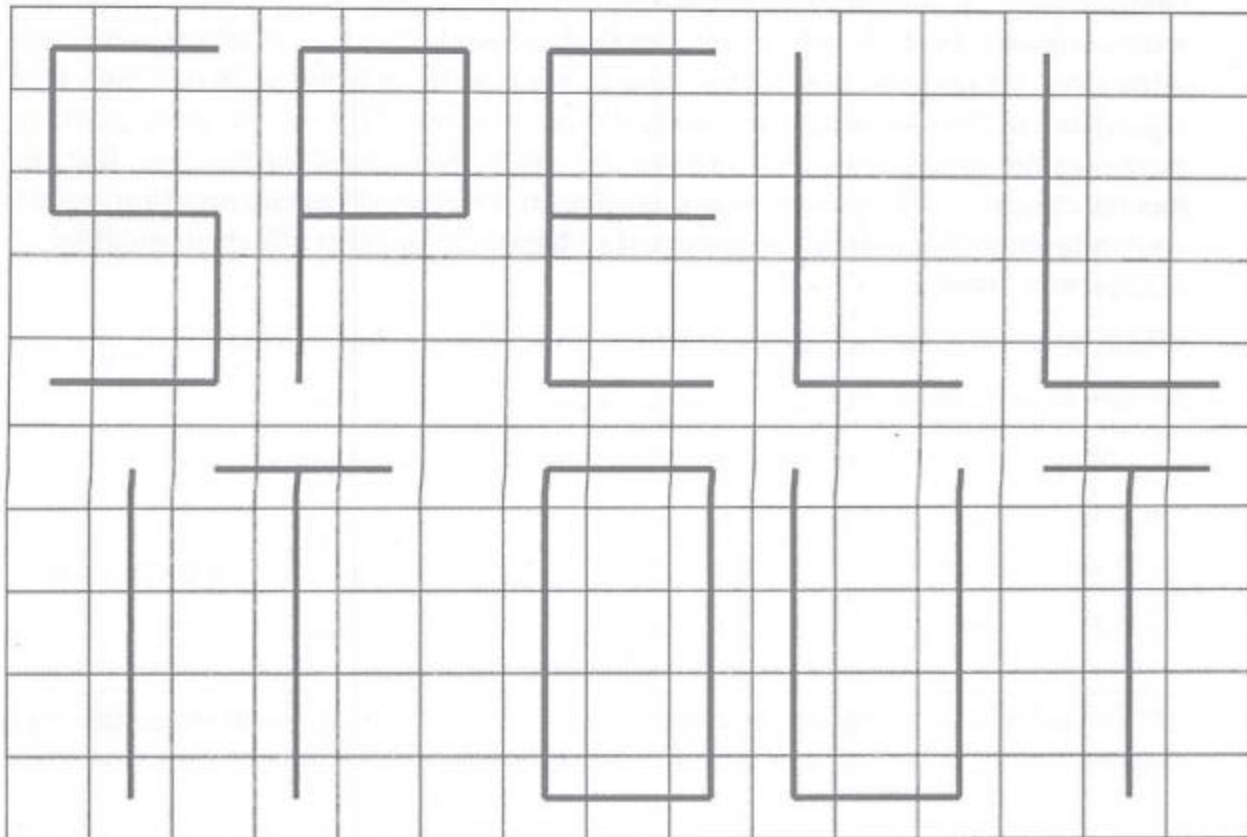
- 39** Below is a picture of a biscuit tin with four identical sides. A set of these tins is to be made that are all distinguishable from each other by colour alone. The manufacturer will paint each of the four sides either red or blue. The top and bottom are not painted.



What is the greatest number of different tins that can be made?

- A** 4
- B** 5
- C** 6
- D** 7
- E** 8

40 This is part of the tiled floor of the magic shop Spell It Out.



Five different types of tile make up the design. How many of the tiles have the pattern



- A 17
- B 18
- C 19
- D 20
- E 21

41 A factory has received an order for a product. It takes 9 operations to manufacture it. These may take place in any order and at any time in the manufacturing process but an individual worker stays with one operation from its beginning to its end. The number of hours for one worker to complete each operation is as follows:

Operation	A	B	C	D	E	F	G	H	I
Duration in hours	12	3	8	9	10	2	6	4	10

All workers are able to complete all operations, but can only do one at a time. The product has to be ready in 16 hours.

What is the minimum number of workers required to manufacture the product in the given time?

- A 1
- B 4
- C 5
- D 6
- E 9

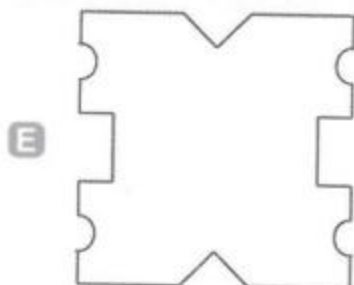
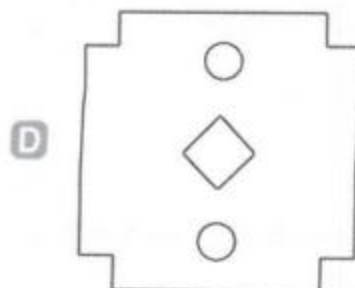
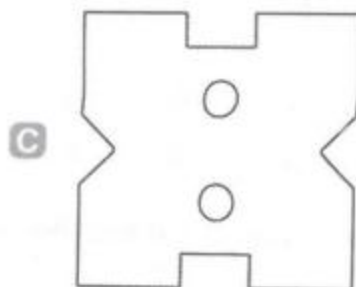
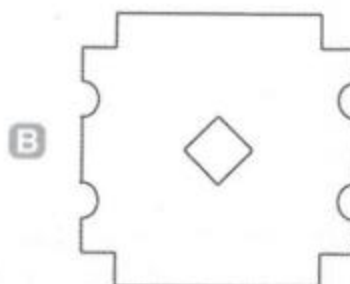
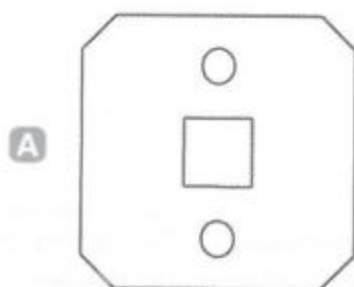
- 42 E-cigarettes, which provide nicotine without cigarette smoke, have been praised by health campaigners. Research has suggested that success rates for quitting smoking are higher with e-cigarettes than with other methods. However, rather than tackling their nicotine addiction, e-cigarette users have simply replaced one habit with another. It is true that cigarette smoke contains many hazardous compounds, and also that quitting smoking increases life expectancy and reduces the risk of many health problems. But nicotine also has its dangers: it has been associated with a range of conditions that we do not fully understand, and research has yet to establish the long-term effects of nicotine use outside of cigarette smoke.

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

- (A) Smoking traditional cigarettes still poses a major risk to health.
 - (B) Using nicotine patches is an ineffective way to give up smoking.
 - (C) E-cigarettes are just as harmful as traditional cigarettes.
 - (D) People should not assume e-cigarettes are a safe alternative to traditional cigarettes.
 - (E) Not everyone is able to give up smoking without nicotine replacement.
- 43 I have folded a square piece of paper in half, then in half again, then cut three pieces from the resulting smaller square, as indicated below:



Which one of the following CANNOT possibly be the appearance of the paper after I unfold it?



- 44 Many children from poor backgrounds would benefit from wearing spectacles but do not have them. Sometimes parents are not aware of their children's poor eyesight, but most often they suffer from financial constraints. The government should provide free glasses to poor children with eyesight problems. A recent study of underprivileged students with poor vision demonstrated that those who were given free glasses enjoyed an improvement in test scores equivalent to almost a year of additional schooling. Using the most conservative estimate of the impact of schooling on salary, this would significantly increase an average school-leaver's annual income and tax contributions, and by far more than the cost of a pair of glasses.

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

- ☐ A Parents should be educated about potential eyesight problems in children.
 - ☐ B Children from poor backgrounds with bad eyesight should be given additional schooling.
 - ☐ C Exam marking should take into account any disabilities the student might have.
 - ☐ D People's salaries should reflect whether or not they had eyesight problems during school.
 - ☐ E The government should help financially with the provision of children's glasses.
- 45 It is common practice to look online for a loan or a mortgage. This has led to a large number of 'comparison websites' where you type in your details and they search a range of companies for you based on these details. Night after night, there are adverts on television emphasising how much time and money comparison sites could save you. The experience of one user should make you consider the wisdom of using such sites. She gave her details to a comparison website and received no useful results. However, for weeks afterwards she was bombarded with emails and phone calls from companies she had never heard of.

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

- ☐ A It draws a conclusion based on one example of how a company operates.
 - ☐ B It attacks the website and not what the company does.
 - ☐ C It assumes everyone uses comparison websites.
 - ☐ D It assumes that comparison websites save customers money.
 - ☐ E It assumes using the internet is the only way to get a loan.
- 46 In a slalom skiing competition skiers tackle the course one at a time. Each skier makes two runs. The times for the two runs are added and the fastest total time determines the winner. Competitors who fail to finish their first run are not allowed to make a second run. In the second round, skiers compete in the reverse order of their positions after the first round.
- Grace took part in a slalom competition last week. She was the eighth skier to make her first run. At the end of the first round she was in sixth position, so she had to wait for 17 of her rivals to make their second runs before it was her turn again. Three skiers had failed to complete the course in the first round.

How many competitors took part in last week's slalom competition?

- ☐ A 23
- ☐ B 26
- ☐ C 28
- ☐ D 31
- ☐ E 34

- 47 A bakery shop makes its own bread in batches to sell on site. Bakers always describe the quantities of other ingredients as a percentage of the weight of flour used. They will then use the percentages in the table below to calculate how much water, salt and fat are required. Today, the baker is planning to use 250 kg of flour to make White Bread.

The Baker's Percentage			
Bread Type	Water (%)	Salt (%)	Fat (%)
Neapolitan Pizza	59	1.5	None
Baguette	60	2	None
French Bread	66	2	None
Ciabatta	80	2	2.5
Focaccia	80	3	3
White Bread	54	2	17
Brioche	22	2	133

What is the total weight of the mixture to be made?

- A 182.5 kg
 - B 250 kg
 - C 323 kg
 - D 420 kg
 - E 432.5 kg
- 48 Though relatively few people know it by name, palm oil is found in over fifty per cent of processed supermarket goods, from soaps to snacks. This vegetable oil, which is taken from the fruit of the oil palm tree, causes a great deal of environmental concern. The clearing of tropical forests to grow oil palm plantations threatens the survival of orangutans and other endangered species. The land conversion often happens on carbon rich peat soils in a process which releases significant greenhouse gas emissions. Yet even some environmental organisations warn that alternative vegetable oil crops may require much larger areas of forest to be converted to agricultural land.
- Which one of the following is a conclusion that can be drawn from the above passage?
- A To produce the most profitable crops, oil palm plantations must be grown on carbon rich peat soils.
 - B If farmers stopped clearing tropical forests for oil palm plantations, endangered orangutan populations would recover.
 - C A ban on palm oil alone would not solve all of the environmental problems associated with vegetable oil production.
 - D The environmental risks associated with oil palm plantations are not well understood in tropical countries.
 - E There is no motivation for manufacturers to stop using palm oil in their products.

Look at the following tables and graphs and answer the questions.

Table 1: Imports/exports trend of Force S.p.A.

Year	Exports (milions of dollars)	Imports (milions of dollars)
2007	1,000	300,000
2008	1,200	300,000
2009	1,500	200,000
2010	1,000	300,000

Graph 1: Wheat production distribution among France, Germany and Italy in 2010

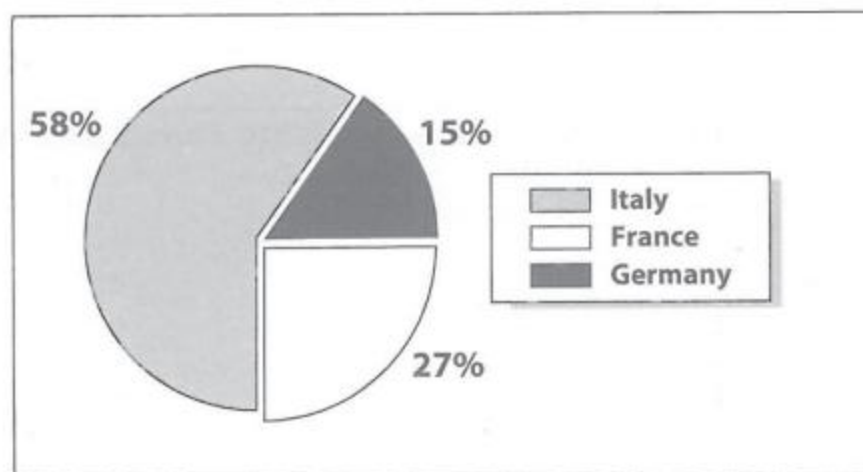


Table 2: Graduates employed according to the job

Self-employed	% of graduate people employed	Employed	% of graduate people employed
Entrepreneur Lawyers, doctors, engineers etc.	28,9%	Manager	1,4%
Own venture	1,2%	Teacher	14,0%
Other	5,7%	Executive Official	9,2%
		Civil servant	31,1%
		Other	8,4%
Total	35,9%	Total	64,1%

Table 3: Comparison between two companies: Pala and Manca

Company	Turnover (milions of dollars)	Employed people	Ratio exports/ 2010's turnover	Ratio imports/ 2010's turnover
Pala	6,500	24	8%	12%
Manca	10,200	52	14%	2%