



# FACE 2 FACE

# UMAT PREPARATION

# CENTRE

# PAPER 2

## Directions to candidates.

1. Attempt all questions
2. All questions are of equal value
3. No marks will be deducted for a wrong answer
4. If you mark more than one answer it will be considered wrong
5. Time each section, you can not go over the allocated time
6. You can not go back to a section once the time is up

## Section 1

This paper has 44 multiple choice questions to be done in 65 minutes.

## Section 2

This paper has 36 multiple choice questions to be done in 45 minutes.

## Section 3

This paper has 30 multiple choice questions to be done in 40 minutes

## Section 1 – Logical Reasoning and Problem Solving

Questions 1-3 refer to the following passage

### **Ocean Floor**

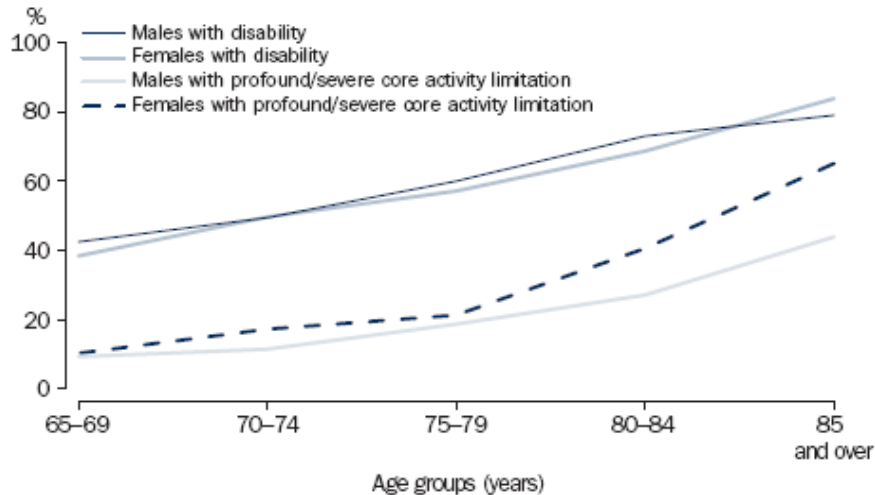
From the 197 million square miles, which make up the surface of the globe, 71 per cent is covered by the interconnecting bodies of marine water; the Pacific Ocean alone covers half the Earth and averages near 14,000 feet in depth. The portions which rise above sea level are the *continents* – Eurasia, Africa; North America, South America, Australia, and Antarctica. The submerged borders of the continental masses are the *continental shelves*, beyond which lie the deep – sea basins.

The ocean are deepest not in the centre but in some elongated furrows, or long narrow troughs, called *deeps*. These profound troughs have a peripheral arrangement, notably around the borders of the Pacific and Indian oceans. The position of the deeps, like the highest mountains, is of recent origin, since otherwise they would have been filled with waste from the lands. This is further strengthened by the observation that the deeps are quite often, where world-shaking earthquakes occur. To cite an example, the “tidal wave” that in April, 1946, caused widespread destruction along Pacific coasts resulted from a strong earthquake on the floor of the Aleutian Deep.

1. The peripheral furrows or deeps are found
  - a) Only in the pacific and Indian oceans.
  - b) Near earthquakes.
  - c) Near the shore.
  - d) In the centre of the ocean.
  
2. We may conclude from this passage that earth quakes
  - a) Occur more frequently in newly formed land or sea formations.
  - b) Are caused by the weight of the water.
  - c) Cause erosion.
  - d) Occur only under the ocean.
  
3. The highest mountains are
  - a) Oldest.
  - b) Near the deeps.
  - c) Relief features of the first order.
  - d) Of recent origin.

Questions 4-5 refer to the following graph

**Older people with disabilities and older people with profound/severe core-activity limitations – 2003**



Source: ABS 2003 Survey of Disability, Ageing and Carers.

4. It is demonstrated in the graph above that
- There are more males with disabilities in the 75-79 age group than females in the same age group in 2003.
  - More females suffer from profound/severe core activity limitation, compared to their male counterparts of the same age, proportion wise.
  - Forty percent of females with disabilities are in the age group 65-69.
  - There are more disabled males in the >85 age group than the 75-79 age group.
5. We CANNOT infer from the graph that
- Proportionally, there are always more people who are disabled, compared to those with profound/severe core activity limitation.
  - 40% of people in the 65-69 age group have at least one disability.
  - More than 50% of people below the age of 80 have profound/severe core activity limitation.
  - More than 25% of males above the age of 80 have profound/severe core activity limitation.
6. A spy infiltrated an enemy cell but was later captured. Rather than volunteer his identity, he gave his captors three clues about the organisation he worked for:
- No two letters in the abbreviation had less than 4 letters between them
  - If there was more than one vowel in the abbreviation, they were between the other two letters in the alphabet

3. If all the letters were consonants, then no pair of letters, when written in capital, had the same number of strokes

What could be the name of the organisation?

- a) CIAT
- b) KGBQ
- c) NSCI
- d) BJQV

7. Consider the following population of birds:

Some Blubs are Aards, but some Carts are Aards.

All Dorks are Carts, and most Dorks are Blubs.

Which of the following is most likely true, if all of the above statements are true?

- a) Most Carts are Blubs.
- b) Some Dorks are not Aards.
- c) All Dorks are Aards and Blubs.
- d) Most Carts are Aards.

8. Seven people's deaths were attributed to excessive videogame playing in 2005, including a South Korean man who died after almost 50 straight hours of gaming. As the Asian countries begin to realise the severity of the problem, new centres for online-game addicts were setup in China, Japan and South Korea, but with a heavy price tag attached – \$442 per bed per night.

According to the passage, which of the following is the strongest indicator that China, Japan and South Korea have problems with videogame addiction?

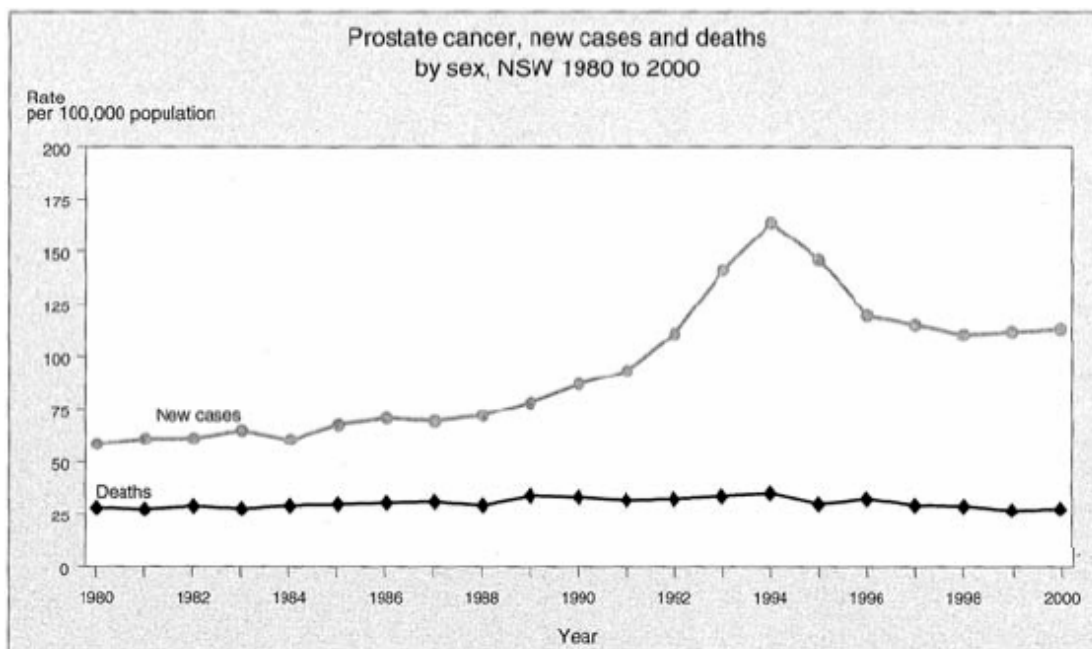
- a) A South Korean man died after almost 50 straight hours of gaming.
- b) Seven people have died due to excessive videogame playing in 2005.
- c) A bed in a rehabilitation centre for videogame addicts costs \$442 a night.
- d) The East Asian region has more social outcasts than any other region in the globe.

9. An estimated 20 million Americans are currently infected with Human Papilloma Virus (HPV). About 5.5 million of these develop HPV infection each year. Certain strains of HPV infection are associated with the development of cervical cancer. A new vaccine by Merck has recently been approved by the US Food and Drug Administration and it targets two HPV strains that are responsible for 70% of cervical cancers and another two strains that cause 90% of genital warts. It's been documented that over 9700 new cases of cervical cancer are reported each year in the US, compared with 470,000 worldwide.

If the effects of the vaccine were immediate, we can conclude from the above that

- If 20 million Americans were given this new vaccine this year, there will only be about 970 new cases of cervical cancer next year.
- Due to the low cost of the vaccine, the distribution of the vaccine around the world will not be such a big issue, unlike antiretroviral drugs for HIV infection.
- If all American women were given the vaccine this year, it would be expected that there would be a 90% reduction of new cases of genital warts in the American population.
- If all American women were given the vaccine this year, it would be expected that new cases of cervical cancer worldwide would decrease 1-2%.

Refer to the following graph to answer Questions 10 and 11:



10. This graph shows that:

- There was a sharp peak in deaths due to prostate cancer in NSW in 1994.
- The number of new cases of prostate cancer continued to increase from 1990 to 1996 in NSW.
- The deaths rate due to prostate cancer remained fairly stable in NSW between 1980 and 2000.
- There are no new cases of prostate cancer after year 2000 in NSW.

11. Which one of the following would MOST LIKELY explain why the surge of new cases of prostate cancer in NSW between 1992 and 1994 did not influence the number of deaths in the same time period?

- a) There was an error in data collection but was rectified in 1996.
- b) A new screening test for prostate cancer was developed in 1992 and everyone at risk was encouraged to undergo testing, but the test was not extremely accurate and no new treatments were developed.
- c) New treatments were developed in 1992, lowering the deaths rate despite the increase in the number of new cases.
- d) Prostate cancer is genetic so the number of deaths will always be relatively constant irrespective of the number of new cases.

12. About forty-five percent of all blood donated in Australia is type O. This blood group is extremely important and vital during emergencies when there is no time to determine the blood type of victims, as type O blood can be used for everyone. It is unique as it is compatible with all blood types. But precisely because of this special usefulness, it is chronically in short supply.

We can infer from the above that

- a) The uniqueness of type O blood lies in the fact that it matches the blood type of most people.
- b) Any decision to give blood of any type other than O needs to be based on knowledge of the recipient's blood type.
- c) The supply of type O blood is continuously so low that it is not available during emergencies, when its usefulness would be greatest.
- d) Type O blood group is the most common blood group in Australia as forty-five percent of the total population has type O blood.

*Refer to the following passage for Questions 13-15*

Tiffany, Pearl, Ruby and Opal were discussing their favourite scientists in a science laboratory at school. Each of them liked either Einstein, Galileo, Jenner or Bell non-respectively, with each scientist's field stemming from Physics to Maths, Astronomy or Chemistry non-respectively. It was further known that the age of death of each scientist ranged from 35 to 40, 50 or 60 non-respectively.

Use the following clues to answer questions 13-15:

- The scientist whose field was Physics died at 35
- Jenner's field was Chemistry
- Opal's favourite scientist, who was not Einstein, died 20 years after another scientist
- Ruby's favourite scientist was Bell
- Einstein died at 40, and his field was not Astronomy
- Pearl's favourite scientist's field was Astronomy

13. We can conclude that

- a) Bell's subject was Physics and he died at 35
- b) Pearl died at 50 and she loved Astronomy
- c) Ruby's favourite scientist died at 35 studying telecommunication
- d) Opal's favourite scientist's field was Astronomy

14. We CANNOT conclude that

- a) Ruby's favourite scientist Bell died at the age of 35
- b) Tiffany's favourite scientist's subject was Maths
- c) Pearl's favourite scientist was Jenner who loved chemistry
- d) The scientist whose field was Chemistry died at 60

15. Which of the following is correct?

- a) Pearl's favourite scientist Galileo did not die at 50
- b) The scientist whose field was Astronomy did not die at 40
- c) Einstein's field was not Maths but Physics
- d) Opal's favourite scientist was not Jenner but Bell

*Questions 16-17 refer to the following excerpt*

### **Discovery of Antibiotics**

In 1929, Alexander Fleming was investigating the properties of staphylococcus. He was already well known by then due to his earlier work, and known to be a brilliant but careless researcher; cultures that he worked on were often forgotten and his lab was usually in chaos. After returning from a long vacation, Fleming noticed that many of his culture dishes were contaminated so threw the dishes in the bin. He had to show a visitor what he had been doing and retrieved some of the unsubmerged dishes. He then noticed a zone around a fungus where the bacteria refused to grow. Fleming isolated an extract from the mould, correctly identified it as from the penicillium family and named the agent, penicillin.

He investigated its effect on many bacteria successfully, and noticed that it affected bacteria such as staphylococci and other Gram-positive pathogens (scarlet fever, pneumonia, gonorrhoea, meningitis, diphtheria) but not typhoid or paratyphoid, to which he was looking for a cure at the time.

16. According to the passage above, Alexander Fleming

- a) Was the first to discover the antibiotic effects of penicillin.
- b) Was disappointed that penicillin wasn't a cure for typhoid and paratyphoid.
- c) Discovered the antibacterial effects of penicillin by serendipity.
- d) Investigated the properties of Salmonella, which causes typhoid and paratyphoid.

17. We can conclude from the passage that

- a) Staphylococcus is a gram-positive pathogen.
- b) Typhoid is caused by a gram-positive bacterium.
- c) Penicillium mould can grow in areas already occupied by staphylococcus.
- d) Culture dishes specifically grow staphylococcus and penicillium mould.

18. In a particular house only when the alarm is set off the police or the fire department will arrive there. Members of both the departments have to pass by the post office to get to the house. Yesterday only the police passed by the post office, and neither department responded to alarms the day before yesterday.

Among the following, which can be properly inferred from the statements above?

- a) Yesterday the police arrived at the house.
- b) Yesterday the fire department did not arrive at the house.
- c) The day before yesterday the police passed by the post office.
- d) Yesterday the fire department failed to respond to the alarm that was set off.

19. In an experiment conducted at a laboratory, 220 white rats were injected with Serum F. 220 other white rats were injected with a harmless sugar solution. In two weeks time 45% of the white mice, who were injected with Serum F contracted the highly contagious and often fatal disease, jungle fever.

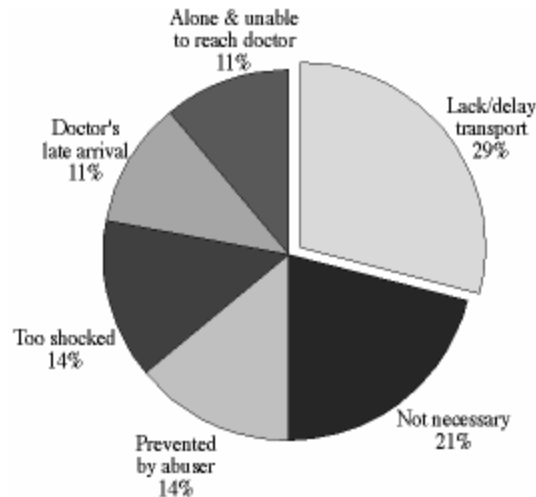
If one among the 440 white rats had already contracted jungle fever prior to the laboratory experiment, we can conclude that

- a) Jungle fever is caused by some elements similar to the elements in Serum F.
- b) Jungle fever is not associated with Serum F whatsoever.
- c) Serum F is extremely effective in promoting the spread of jungle fever.
- d) None of the above.



Questions 20-21 refer to the following graph

**Reasons for not receiving medical attention within an hour of physical abuse**



20. Medical attention within an hour of the incident was not received MAINLY because

- There was either a lack of or a delay in transportation.
- It wasn't necessary or it was prevented by the abuser.
- It was prevented by the abuser and it wasn't necessary.
- The doctor was late, and the victim was too shocked, and it was prevented by the abuser.

21. We can conclude from the graph that

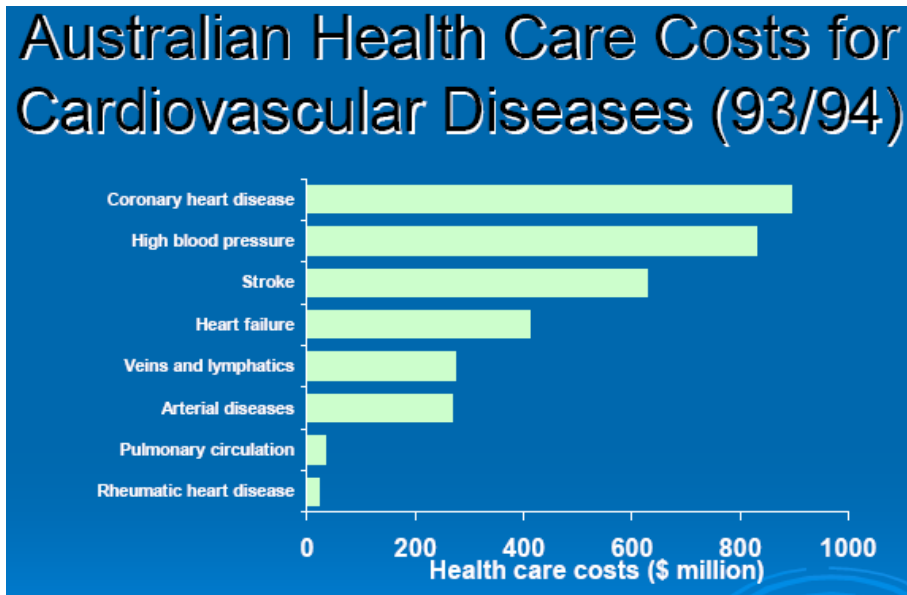
- 11% were alone and were unable to reach a doctor within 1 hour of the incident.
- In the majority of physical abuse, medical attention was not necessary.
- Most victims of physical abuse rely on public transport or need to arrange for transport to attend medical services.
- 14% of female victims were too shocked to get medical attention within 24 hours of the incident.

22. Successfully adjusting to one's environment leads to happiness. War at a universal level destroys the weaker people, who are the most unable to adjust to their environment. Thus, war at the universal level puts weaklings out of their misery and allows more space for their predators to enjoy life in a better manner. As those actions have to be performed, which maximise the level of happiness of the greatest number, war at a universal level should take place.

The author would NOT agree with which of the following?

- a) War at the universal level can only be stopped by the weaklings.
- b) Weaklings will be miserable no matter what happens.
- c) It is possible for the strong to survive without suppressing the weak.
- d) War at the universal level would be an integral part of achieving maximum happiness.

Refer to the following diagram to answer Questions 23 and 24:



23. This graph shows that:

- a) Coronary heart disease cost \$800 million to the Australian health system in 93/94.
- b) Arterial diseases were the sixth most expensive cardiovascular disease in Australia in 95/96.
- c) In 93/94, the Australian government spent about 25% of the health care costs on high blood pressure.
- d) Rheumatic heart disease cost the Australian health system about \$30 million in 93/94.

24. It can be inferred from the graph that:

- a) Coronary heart disease, high blood pressure, stroke, heart failure, veins and lymphatics, arterial diseases, pulmonary circulation, rheumatic heart disease and diabetes can all be categorised as cardiovascular diseases.
- b) The Australian health system was worth more than \$2.5 billion in 93/94.
- c) More people died of coronary heart disease than of stroke in Australia in 93/94.
- d) We should put more funds into rheumatic heart disease because it's one of the main causes of heart failure.

25. It is popularly believed that teachers are more or less indifferent about the microcomputer technology. This assumption is false, or at least dated. A survey recently conducted indicated that 80 percent of the 7,000 surveyed teachers revealed a high level of interest in microcomputers.

If we assume that those who returned their questionnaires came from all sorts of backgrounds and hence correctly represented the entire population of teachers, then we can conclude that

- a) Teachers interested in microcomputer technology were more likely to complete and return the questionnaires than others.
- b) The belief that teachers are indifferent about the microcomputer technology is wrong.
- c) Exactly 80% of all teachers have a high level of interest in microcomputers.
- d) Many teachers have a high level of interest in microcomputers but the numbers doesn't constitute a majority.

*Refer to the following passage for Questions 26-28*

Mark, Marty, Pete and David were all driving their cars (Holden, Ford, Toyota and Nissan non-respectively) when they were caught by police for speeding. Each was speeding at 100km/hr, 120km/hr, 150km/hr or 180km/hr non-respectively. Further, their blood alcohol contents (BAC) were tested, with readings of 0.01%, 0.02%, 0.04% or 0.05% non-respectively.

It is known that:

- David had a BAC of 0.05%
- The driver of the Toyota was speeding at 180km/hr
- Marty was driving at 150km/hr
- The driver of the Holden had a BAC of 0.02%
- Pete drove the Nissan and he was speeding at 100km/hr
- The driver who had a BAC of 0.01% was speeding at 100km/hr

26. Which of the following can we conclude?

- a) The person driving at 150km/hr was in a Nissan
- b) The person with a BAC of 0.05% was driving at 120km/hr
- c) Mark was driving a Ford and his BAC reading was 0.02%
- d) None of the above

27. Which of the following can we **NOT** conclude?

- a) The person with a BAC of 0.05% was driving a Toyota
- b) Pete has a BAC of 0.01% and was speeding at 100km/hr
- c) Both a and b
- d) Neither a nor b

28. Which of the following is incorrect?

- a) David was not driving at 120km/hr in a Toyota
- b) Mark did not have a BAC of 0.04% while speeding at 120km/hr
- c) The person driving a Holden was not speeding at 150km/hr
- d) Marty was not driving a Ford but a Holden

29. Three boys Alexander, Ashley and Aaron are chosen to represent three football clubs: Bankstown, Collaroy and Dundas, but not in that order. They can choose from 7, 9 and 10 as numbers on their shirts, although only one boy can have each number.

- Alex plays for Bankstown, although he does not have the number 7 shirt
- The boy wearing the number 9 shirt does not play for Collaroy, and is not Ashley
- Aaron is wearing the number 10 shirt
- The boy wearing the number 7 shirt is not playing at Collaroy

Who wears the number 9 shirt, and who plays for Collaroy?

- a) Aaron, Ashley
- b) Ashley, Alexander
- c) Alexander, Aaron
- d) Ashley, Aaron

30. Quite often it happens that a particular crisis or opportunity induces people to find a practical use for things, which originally had no serious purpose. To exemplify this principle, consider dolls and mannequins, programmed to move and built for the delight of the wealthy in the eighteenth century; these were the forerunners of the modern computer. Similarly, it is almost certain that pets were the first domesticated animals. Domestication of animals seems to have arisen as an amusement long before it had any practical application.

Which of the following is another example to support the main point of the above?

- a) America was discovered as a by-product of the search for ginger, cloves, pepper, and cinnamon.
- b) Children often imitate adults in their games.
- c) Till the commercial and scientific potential of the spyglass was recognized and its power of magnification was improved it remained a mere source of diversion.
- d) Some culture horses were used only for pleasure and not for work, even though in those cultures people had to labour hard in the absence of labouring animals.

31. In a particular code, the digits from 0 to 9 inclusive are each represented by a different letter of the alphabet, the letter always representing the same digit. In case the following sum

$$\begin{array}{r} B O P B \\ + S K B \\ \hline \end{array}$$

$$C V B Q$$

holds true when it is expressed in digits, which of the following CANNOT be properly inferred:

- B cannot be 0.
- B must be less than 5.
- Q must be even.
- $O + S$  must be greater than 8.

Questions 32-33 refer to the following table

Medication and medical errors					
Percent in the past two years	Aus	Can	NZ	UK	US
Given the wrong medication or wrong dose by a doctor, hospital or pharmacist	11	11	13	10	12
Believed a medical mistake was made in your treatment or care	19	20	18	13	23
Either error: medication error or medical mistake	23	25	23	18	28

32. The above table shows that in the past two years,

- 11% of Australians, including doctors and pharmacists, were given the wrong medication or wrong dose.
- More Americans believed that a medical mistake was made in their treatment or care, compared to the Canadians.
- 23% of British citizens were given the wrong medication or wrong dose and believed a medical mistake was made in their treatment or care.
- 18% of Americans experienced either a medication error or a medical mistake.

33. We can conclude from the above that in New Zealand in the past two years,

- It is more common to experience a medical mistake than to be given the wrong medication or wrong dose by a doctor, hospital or pharmacist.

- b) 23% of New Zealanders experienced at least one medication error and a medical mistake.
- c) 8% of New Zealanders believed a medical mistake was made in their treatment or care even though it wasn't officially documented.
- d) The majority of people believed that a medical mistake or a medication error was not made in their treatment or care.

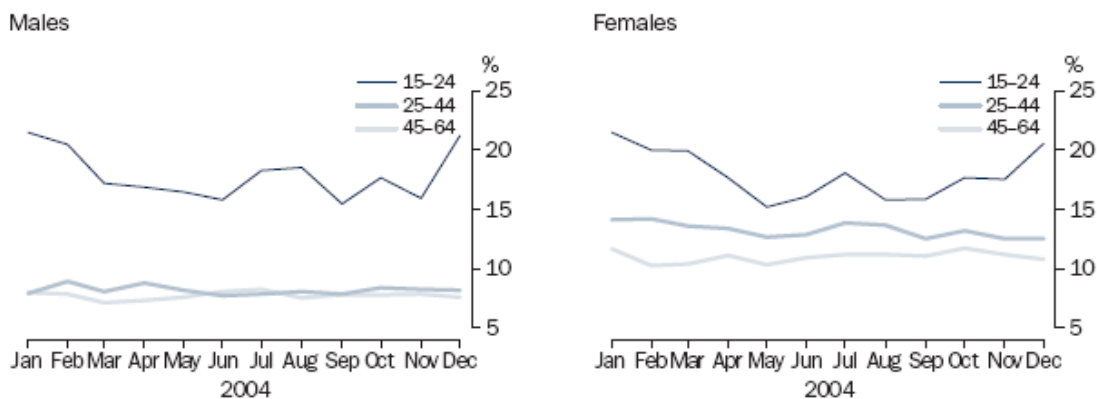
34. Older Americans are healthier and more active than ever. A remarkable 20% of marathon runners who finished in Boston were 50 or older in 2006, up from 13% of finishers 20 years ago. The numbers are similar for the Seattle Marathon, where the 50-and-up crowd is growing 10% a year. In the New York City Marathon, that group accounts for 16% of finishers, up from 4% in 1986.

We can conclude from above that

- a) New Yorkers are the healthier and more active than people in Boston and Seattle.
- b) If 15% of Seattle Marathon runners are over 50 this year, then in 10 years, the number of over-50 marathon runners in Seattle will exceed those in Boston.
- c) 20 years ago, the proportion of over-50 marathon runners was higher in Boston than in New York City.
- d) If the population of Boston is higher than in Seattle, then Boston has the highest number of marathon runners over the age of 50 out of the three cities mentioned.

Questions 35-36 refer to the following graphs

#### Proportion of people changing labour force status – 2004



Source: Labour Force, Australia, Detailed - Electronic Delivery, monthly (ABS cat. no. 6291.0.55.001).

35. In 2004, Australian males

- a) Change jobs less frequently than females in the 25-44 age group, throughout the year.
- b) Tend to change jobs in their holidays.

- c) In the 25-64 age group had a relatively stable proportion of people changing their jobs.
- d) Are generally paid more than their female counterparts for the same level of expertise.

36. Which of the following statements would BEST explain the apparent discrepancies between the 15-24 age group and the other two age groups in terms of the proportion of people changing labour force status in 2004?

- a) Young people (15-24 year olds) tend to keep low-paying jobs for longer.
- b) Young people tend to lose jobs in fast food stores like McDonalds and KFC faster than their older counterparts.
- c) Young people tend to start looking for jobs at the age of 16.
- d) Young people are more likely to change the amount of their working hours in order to fit with their lifestyle.

*Refer to the following passage for Questions 37-39*

Julian, Brendan, John and Ross were discussing four brands of cricket bats they are willing to buy – Gray Nicholls, Slazenger, Puma or MRF non-respectively. They each vary in price from \$420 to \$430, \$450 and \$480 non-respectively. All four boys decided to buy a new bat in order to beat their highest batting score – 78, 86, 105 and 124 non-respectively.

Use the following clues to answer Questions 37-39:

- The Puma bat costs \$480
- The person whose highest score is 78 bought a bat worth \$420
- John bought a MRF bat
- The person whose highest score is 86 bought the Gray Nicholls bat
- Ross' highest score is 124 but did not buy a \$430 bat
- Brendan bought a bat worth \$450 to improve his highest batting score of 105

37. We can conclude that

- a) The person whose highest score is 105 bought a bat for \$450
- b) Brendan bought a Puma bat for \$480
- c) The MRF bat cost John \$430
- d) Julian's lowest batting score is 86

38. We **CANNOT** conclude that

- a) John bought a MRF bat for \$420
- b) Brendan's highest score is 86 and spent \$450 to improve it
- c) The person whose highest score is 124 bought a bat for \$480
- d) None of the above

39. Which of the following is incorrect?

- a) The person whose highest score is 105 bought a Puma bat for \$480
- b) Julian bought the Gray Nicholls bat to improve his highest score of 86
- c) The person whose highest score is 78 bought the \$420 MRF bat
- d) John's highest score is 78

*Questions 40-44 refer to the following experiments*

Jason and Sakura conducted two separate experiments, outlined below:

Experiment 1	Experiment 2
<p>Jason is testing his hypothesis that the smaller the size of an opening, the faster the velocity of the water or the greater the distance it squirts from this opening for a given pressure.</p> <p>Materials</p> <ul style="list-style-type: none"> <li>• Plastic milk bottles.</li> <li>• Knife or scissors</li> <li>• Ruler</li> </ul> <p>Steps</p> <ol style="list-style-type: none"> <li>1. Cut several holes in side of the container at the same height. These holes should be different sizes.</li> <li>2. Fill the container with water.</li> <li>3. Measure the distance from the container that the water squirts out of each hole.</li> </ol>	<p>Sakura compares the density of two different liquids that don't mix. She knows that the denser liquid would sink lower than the other liquid.</p> <p>Materials</p> <ul style="list-style-type: none"> <li>• Vegetable oil</li> <li>• Water</li> <li>• Two similarly graduated beakers</li> <li>• One larger beaker</li> <li>• Scale</li> </ul> <p>Steps</p> <ol style="list-style-type: none"> <li>1. Weigh each of the similar beakers.</li> <li>2. Pour an equal volume of oil and water into two separate beakers.</li> <li>3. Weigh each beaker with its liquid.</li> <li>4. Determine the density of each liquid.</li> <li>5. Pour the lower density liquid into the third beaker.</li> <li>6. Pour the higher density liquid into the beaker.</li> <li>7. Observe what happens.</li> </ol>

40. If Jason's hypothesis is correct, then we can expect in experiment 1 that

- a) Water will travel furthest coming out of the smallest hole.
- b) Water will travel furthest coming out of the biggest hole.
- c) If we add pressure to the milk bottles, water will travel further out of all the holes.
- d) If we use any other liquid, the result will be exactly the same.



41. If Jason's hypothesis is INCORRECT, then we can expect in experiment 1 that
- a) Water will travel furthest coming out of the smallest hole
  - b) Water will travel furthest coming out of the biggest hole.
  - c) If we use any other liquid, the result will be exactly the same.
  - d) None of the above.
42. In experiment 2, if we assume that vegetable oil is denser than water, what would happen in step 7?
- a) Water will not be able to penetrate the vegetable oil layer, hence air will be trapped underneath the vegetable oil, while the water sits on top of the oil.
  - b) Two clearly separated layers will be observed, with water on top.
  - c) Water and vegetable oil would mix thoroughly, producing a light yellow liquid.
  - d) Water would sink down to the bottom of the beaker, leaving a layer of vegetable oil on top.
43. Which of the following factors are independent variables (factors that are purposefully changed in the experiment) in experiments 1 and 2 respectively?
- a) Size of the holes and the density of vegetable oil
  - b) The distance from the container that the water squirts out of each hole and the observation of water and vegetable oil after they've been mixed.
  - c) Size of the holes and the densities of water and vegetable oil
  - d) Size of the holes and the densities of liquids that don't mix.
44. Timing and speed are often crucial in scientific experiments, which of the above two experiments rely on how quickly or slowly the steps are completed?
- a) Experiment 1 only
  - b) Experiment 2 only
  - c) Neither experiment 1 or 2
  - d) Both experiment 1 and 2

## Section 2 Understanding People

*The following interview refers to questions 1-4.*

Question: When you first began to show symptoms of being seriously ill, did you suspect the worst, or was the diagnosis a shock?

Doctor: I didn't suspect I had lung cancer. I actually couldn't work what my symptoms meant. People have said to me things along the line of, "you must have known straight away being a doctor and all" but it wasn't like that. I thought I had a viral infection that wouldn't go away at the time. Looking back now I think deep down I knew there was something more serious going on. I think I was trying to protect myself from hearing the truth.

Question: You must have had many patients in the same situation in the past?

Doctor: Yeah, I always wondered why it took some patients so long to seek medical advice despite it being very obvious there was a major problem with their health. Although I did not let it go on that long, I can see how the mind can play tricks on you and convince you that everything is going to be ok. I think I would be much more understanding as a doctor if I was still practicing today.

Question: How do you keep positive and motivated, knowing that only a handful of people survive the type of tumour that you have?

Doctor: Well, just like I used to tell my patients, its all about having a positive mind. Fortunately, having a positive frame of mind comes naturally to me. Also, I think it's important that I work at staying positive for a couple of reasons: Firstly, there is evidence that a positive mental attitude can lead to an improved chance of survival. The second reason I think is worthwhile is that it makes the whole journey so much easier and more tolerable for the family.

Question: Speaking of your family, how are they coping?

Doctor: My wife has been my rock. A number of times I have woken up in the morning when I need to go to chemotherapy, sat up in bed and then wanted to go back to sleep. Not because I want to give up but because I am tired a lot of the time. My wife then comes and helps me get out of bed and reminds me as to how far I have come and tells me it would be silly to give up now otherwise she would have to go out and get a job to keep herself busy during the day rather than helping me out. That makes me laugh and get going as I wouldn't want her to feel unneeded.

- Question: When you were younger, did you always want to be a doctor?
- Doctor: No I didn't, I wanted to be an architect until my last year at school. Half way through my Year 12, I had a flash of insight. I was very idealistic and decided I could probably use what limited talent I had and make a contribution to humanity if I was a doctor rather than an architect.
- Question: Do you miss practising medicine now that you have had to retire?
- Doctor: Surprisingly I haven't missed it for one minute. At the time I became ill I was doing so many things in addition to seeing patients and operating. My life was really unsustainable as it was so busy. Also, there are so many other ways in which I wanted to develop intellectually that it was almost a blessing that this illness came along and gave me the opportunity to stop work.
- Question: Has your outlook on life changed since being diagnosed with cancer?
- Doctor: My outlook hasn't changed as I have always had a very positive outlook, but I realise now more than ever I need to enjoy every minute of every day and take every opportunity to treat people kindly and tell the people I care about that I love them.

1. The doctor in his first comment is describing:
  - a) Being in denial because although he recognised the symptoms, he didn't want to believe they might represent something serious
  - b) Being apathetic towards his health until it became too late
  - c) Being ignorant to the fact his symptoms were more than something that would go away by himself
  - d) His frustration of being a cancer doctor and then being diagnosed with cancer
2. The doctor believes the experience of being diagnosed with cancer would make him:
  - a) More understanding of his patient's fears and concerns
  - b) More aware of the treatments available for his condition
  - c) More appreciative of the teams of doctors involved in the care of patients
  - d) More accepting of the way in which different people and their families react to different situations

3. When asked about whether he would miss practising medicine, the doctor replied, “surprisingly I haven't missed it for one minute”. This indicates:

- a) He disliked his job as it was taking up too much of his time
- b) He wanted to retire as he had so many things to do and needed some time to rest
- c) He has realised that there are other things he wants to do in his life and it has given him more time to spend with his family
- d) He has found he is now a better person as he has been able to develop intellectually since he has stopped working

4. The doctor's wife has been:

- a) Supportive yet gets frustrated with her husband at time
- b) Supportive and encouraging and tries to lighten the mood with a joke
- c) Supportive yet insensitive at times and makes the doctor feel like he has to keep going to stop her from feeling unwanted
- d) Unsupportive as she makes it sound like helping her husband is a chore

*In the following passage, Fiona reflects on losing weight and refers to questions 5-8.*

Six months ago if you had told Fiona that she would be spending her weekends bikini shopping with her boyfriend she would have laughed at you. Not only had Fiona never had a boyfriend, weighing in at 85kg meant she didn't have much use for a bikini either. Months earlier, Fiona had met her now boyfriend Ian through a mutual friend. “I thought he was pretty cute and I loved his rock star hair”, Fiona commented to a friend. Her friend encouraged to go and talk to him but every time she went up to him she felt her cheeks beginning to burn and even though she had rehearsed a million times, the words never seemed right at the time. 15 kg, Fiona finally found the voice inside of her to ask Ian out and he accepted. Now they are looking for a bright bikini to enjoy on their first trip away together and they can't wait.

5. Fiona found it difficult to talk to Ian because she felt:

- a) Nervous
- b) Scared
- c) Worried
- d) Concerned

6. The weight loss:

- a) Encouraged Fiona to buy new clothes
- b) Enhanced Fiona's personality
- c) Encouraged Fiona to overcome her fear of talking to strangers
- d) Empowered Fiona to initiate a change in her life

7. Fiona has changed:

- a) Physically
- b) Emotionally
- c) Both A and B
- d) Neither A or B

8. Fiona and Ian:

- a) Enjoy reminiscing about the past
- b) Are excited about their future
- c) Feel content with the relationship at present
- d) Are eager to progress their relationship to the next level

*An interaction between a patient (Angela) and her doctor. This refers to questions 9-11.*

Doctor: Hi Angela, nice to see you again. I was just looking at your notes and it says you came in for a pregnancy test last month. Do you use protection?

Angela: Ummm, well ..... yes..... of course, why wouldn't I?

Doctor: Well why did you come in for a pregnancy test then? Either you were not using protection or you or your partner were careless.

Angela: Well it wasn't like that actually ....

Doctor: It seems pretty straight forward to me.

Angela: Actually, I hadn't had a period for some time but I did not believe I was pregnant. The doctor just did that to be certain .....

Doctor: You really should act more responsibly. Then it wouldn't even be considered as a possibility.

Angela: Well I suppose

Doctor: Ok, so what did you come in today for?

9. The doctor in this scenario:

- a) Effectively informed Angela about the importance of using protection
- b) Did not acknowledge Angela's concerns
- c) Made assumptions without knowing any information
- d) Was disrespectful to Angela's relationship

10. The comment, “It seems pretty straight forward to me” indicates the doctor:
- a) Thought Angela was trying to avoid taking responsibility for her actions
  - b) Thought Angela did not know what it took to get pregnant
  - c) Thought Angela was pretending she did not understand him
  - d) Did not care about Angela and was hoping she would get to the point of why she had come to see him/her
11. As a result of this consultation, Angela would feel:
- a) Guilty for actions
  - b) Responsible for her actions
  - c) Physically violated
  - d) Anxious about the doctor telling someone else she went for a pregnancy test

*A personal reflection from Mary on her wedding day relating to questions 12-13.*

I couldn't believe the day had finally arrived, I was getting married. I had planned everything down to the last detail and I had been praying everything would go smoothly. The day was perfect and apart from the usual butterflies, I couldn't wait to walk down the aisle. Dad walked me down, as I always wanted but just as Matt took my hand I felt a trickle of water down my leg. I knew straight away what it was but I just stood there, eyes wide open, frozen, I couldn't believe it. Matt saw the look on my face. He immediately put one hand on my belly and grasped my other hand. “What's the matter” he proclaimed. I smiled. My baby was on its way, a month early! We had planned the wedding a month early than my due date to prevent this happening but things were not going to plan. I kept thinking I would have to cancel the wedding but I really didn't want to, all this effort for nothing. Thankfully I didn't have to and I made it through the ceremony. And I got a healthy baby boy to top it all off.

12. “I knew straight away what it was but I just stood there, eyes wide open, frozen, I couldn't believe it”. This had the following effect on her husband to be:
- a) He got excited realising that the baby would be arriving shortly
  - b) He panicked thinking there was something serious wrong with Mary and the baby
  - c) He was afraid that she wanted to back out of the wedding because she had changed her mind
  - d) He was confused as this was supposed to be the happiest day of their lives
13. The thought of the baby arriving on her wedding day:
- a) Made the narrator disappointed
  - b) Made the narrator unhappy because she did not want the baby
  - c) Gave the narrator mixed emotions
  - d) Made the narrator feel indifferent

*A mother's journal after losing a child relating to questions 14-18*

Christopher was our third child – we have two older daughters. He was a normal little boy until 8th grade, I received a call to come to school immediately as Chris was unconscious. He was taken to the emergency department but the tests all came back normal. They told me he must have fainted because it was a very hot day and to make sure he rested for a few days. We thought nothing of it. Over the next few years there was a few times were we found Chris staring into space or passed out on the floor but we were always able to explain it or link it to such things as the weather, or not eating enough.

Four years later, just before the HSC, he was found unconscious again in the playground and taken to hospital. We thought it was just going to be like last time. However we could see the doctors behind the desk talking to each other in hushed voices. They regularly looked up and over at us, sitting by his bed while he slept. I got this sickening feeling in my stomach. And that is when Chris was told that he had epilepsy. The doctor stressed that Chris could live a normal life.

Chris was very upset because he had to give up his driver's license. There would be no baths or swimming by himself. He would have to go on medication. Chris began complaining that it affected his short term memory and made him sleepy. But if it meant that he would not have any more turns then he knew it was the safer option. He decided not to go on Schoolies because taking the medication meant that he could not drink and he felt it would be hard for everyone to understand why he wasn't participating like everyone else. His friends were very understanding though and sent him video updates as to what was happening on a daily basis.

Chris did well in his HSC and went to university to study engineering. He was very much into basketball also and made the university team. About five months later he had another seizure. Then two days before starting second semester, another seizure, a major one this time. He went back to university and somehow he had injured his arm. He was depressed, yet he wouldn't leave college and come home. At Christmas he came home and we visited his doctor again together. His medications were changed but as he said he had been seizure free for over 6 months we thought everything was going well. He was even starting to sound a little happier.

Soon after Christmas he went away with his girlfriend. It wasn't until after he died that we learned that he was having seizures regularly. Even on New Year's Eve, when he apparently had another one, his girlfriend was trying to get him to tell us that the seizures were becoming more regular and that we should try to find a doctor there for him. But he didn't want this. He apparently told his friends that if he had a seizure, he didn't even want them to call an ambulance.

Then on February 21st he apparently wasn't feeling well. He told his girlfriend he was going to her apartment to take his medicine and study. He would meet her there after she had finished her classes. I will never forget that day. My daughter called me. She was screaming. "They can't get Chris to breathe." We learned that when his girlfriend got to

the apartment, she found him and tried to revive him. She called 000. There was nothing anyone could do. He had been studying in bed surrounded by his books.

It was a tragedy. No one told us that with epilepsy there was a risk of death. And to the best of my knowledge, no one ever told Chris. Because it was an unattended death, there was an autopsy. It showed no evidence of anything else in his body and no abnormalities that would have caused his death. I felt it was my fault. That I should have known that this could happen and warned him. I felt I should have asked more questions and not simply taken his word that everything was ok. I felt that I should have visited him more regularly and not pressured him to take his medication as he might have felt more comfortable talking to me.

I don't know how physicians can make that decision and not give out this vital information. And I don't question for a moment the doctors' motives; no one wants a patient to die and in their hearts doctors want to do the right thing for their patients.

14. Initially, prior to the diagnosis being confirmed, Chris' parents:

- a) Were ashamed of Chris' condition and was hoping it would simply go away
- b) Were naïve to think that these episodes were only minor and should have sought help sooner
- c) Were always able to justify the events Chris was having and therefore it was not intentional for them to have not sought medical advice sooner
- d) Ignored these events were occurring in the hope he would grow out of it

15. The doctors, "regularly looked up and over at us, sitting by his bed while he slept". This made Chris' mum:

- a) Anxious as she realised there was something they knew and was going to tell her
- b) Uncertain, she could not decide if it would be good or bad news
- c) Devastated as if they were going to tell her it was something life threatening immediately.
- d) Puzzled, she still didn't think there was anything wrong

16. It is evident that over the final six months of his life, Chris

- a) Was becoming more afraid as to what was happening and did not want to scare his family thereby keeping everything to himself
- b) Was becoming more depressed and was not coping with his illness
- c) Knew something bad was going to happen to him
- d) Wanted his life to end

17. Chris' mother wished her relationship with her son was:

- a) More open and trusting
- b) More encouraging and supportive



- c) More insightful
- d) Less intense

18. Chris' mother's attitude towards doctors at the end of the passage can be described as:

- a) Angry that they didn't tell her the possibility of death
- b) Disappointed the doctors did not feel as though she could understand the possibility that her son could die
- c) Frustrated yet understanding of their motives
- d) Devastated that the tragedy could have been averted with more warning

*An account by Jacob about his family referring to questions 19-21.*

My family really hasn't got along with each other for many years. It was a real shame that I lived only streets away from my aunts and uncles and cousins but I never saw them. Eventually once I was married with kids I decided enough was enough. They did not deserve to miss out on what I missed out on. I tried to organise a family meeting but after all this time, no one really cared anymore. "Let them come to me first", my uncle said. I was somewhat disappointed, I had hoped for a happy reunion but I kept trying. Finally, they all agreed and things started to look on the bright side. My family members have begun to band together and are solving their issues much to everyone's relief. There has even been talk of a family reunion!

19. The main motivation by the author to get his family to communicate again was for:

- a) His Parents
- b) His children
- c) Himself
- d) His aunts and uncles

20. The author, in trying to get the family to cooperate, felt:

- a) Frustrated and determined
- b) Angry and upset
- c) Annoyed and empowered
- d) Determined and tired

21. "Let them come to me first" indicates, most likely, according to the author's uncle:

- a) He could not be bothered talking to his family
- b) He was tired of trying to make peace with his family
- c) He did not feel it was up to him to initiate the talks because it was not his fault
- d) He was upset and couldn't talk at that time

*The following scenario involves Amelia who wants to have a baby and refers to questions 22-24.*

Amelia, a 36 year old woman visits her doctor for pre pregnancy advice. She and her partner Paul, who is in his early 40s have been married for 4 years and want to start a family. She has questions about the possibility of having a child with some form of birth defect as her mother, at age 40, had a child with Down Syndrome who died shortly after birth. She really wants to know what her risk is now because she is finding it hard to sleep at night not knowing what's going on.

Doctor: I understand what you are going through is difficult. At the moment, we can not be for certain whether if you do have a child they will have a problem but I want you to be aware that the risk is small. I can give some brochures and organise a meeting with a midwife who can talk you through some of these things if you would like.

22. Amelia is:

- a) Afraid that she may go through the same thing which happened to her mother
- b) Embarrassed about having children so late
- c) Nervous about becoming a mum
- d) Concerned that she might be doing something which could cause her baby to have Down Syndrome

23. The doctor's response demonstrates:

- a) Concern
- b) Empathy
- c) Appreciation
- d) Support

24. As a result of the consultation, Amelia is likely to feel:

- a) Completely relieved
- b) Comforted somewhat by the fact the risk, although present, is only small
- c) More apprehensive than when she first went in
- d) Empowered with information

*An excerpt from an MSN (an online chat service) conversation between a couple and refers to questions 25-26.*

Forever young says: Is your ex bec online?

Was in theatre all morning... says: no! Oh well kinda, I blocked her. Your so mistrustful.

Forever young says: Excuse me?

Was in theatre all morning... says: is...carl online?

Forever young says: why u asking

Was in theatre all morning... says: i want to be suspicious too!

Forever young says: i wasnt being suspicious. i was just asking, gosh, I thought you knew me better than that.

Was in theatre all morning... says: ah, ok, sorry...don't mean to jump to conclusions

Forever young says: tis ok and no he isnt

Was in theatre all morning... says: hard to tell ur intent on the net lol

25. How did 'was in theatre all morning' feel after the comment "Is your ex bec online?"

- a) Accused
- b) Vindicated
- c) Shocked
- d) Upset

26. How did 'Forever young' feel immediately after being accused of being "mistrustful" according to her second statement?

- a) She did not understand what her boyfriend was getting at
- b) She was shocked and could not believe her boyfriend would accuse her of such a thing
- c) She was afraid this would mean the end of their relationship
- d) She was uncertain as to whether he was referring to her or referring to Bec

*A reflection from Max relating to questions 27-28.*

It was down to the final putt. As a junior on the senior golf circuit, winning a major tournament in my first year was something which was quite unheard of. If I made the final putt I would win. If I missed the putt, I would have to go into a tie breaker, something I was not looking forward to. I took some deep breaths and found that I my nerves had disappeared. I felt as if I was taking a shot on the practice course and I found

this really helped me focus. I was actually surprised I felt this way because usually in front of crowds I get very sweaty and shaky. The ball rolled, I held my breath and then plop, it fell in the hole. I won, I really did it, I thought. With a smile and looked over at my girlfriend, all this was dedicated to her.

27. Why was the author surprised:

- a) He thought he would be more intimidated by the atmosphere and importance of the putt
- b) He thought he would not be so calm under the pressure
- c) He never thought he would reach this stage of a tournament so early in his career
- d) He couldn't believe this shot actually made the green

28. Following on from this, it is likely the author would be more concerned with:

- a) Receiving his trophy
- b) Having his photo taken for the newspapers
- c) Giving his speech to thank everyone
- d) Running over to see his girlfriend

*Jason's experience after a blood test with unexpected results refers to questions 29-31.*

Jason had a blood test while he was a school one day. As part of the blood test, he was tested for what blood group he was and the result came back saying he was A+. At first he thought there must have been a mistake. That couldn't be possible since he knew for a fact that his mum and dad were both O+. Jason didn't know who he should talk to about this and he was quite confused about what it all meant. He had heard at school about how you get your blood group from one of your parents but this would suggest that one of his parents was not his. Finally he built up the courage to ask his parents. They both looked at each other and avoided eye contact with Jason. Eventually his dad piped up and said he was adopted and they were waiting for the right time to tell him. Jason felt his heart had been ripped out of his chest and stomped on.

29. When Jason got the test results back, he was:

- a) Disbelieving of the result
- b) Angry at his parents
- c) Annoyed that someone must have lied to him
- d) Confused about what it all meant to him

30. Why did his parents avoid eye contact with him:

- a) They disapproved of him getting a blood test on his own
- b) They were worried about how many people he told the result to
- c) They felt responsible for having their secret revealed
- d) They did not know how to deal with the situation

31. Following on from this, it is likely the relationship between Jason and his parents:

- a) Will be negatively affected forever
- b) Will be negatively impacted at least in the meantime
- c) Will return to normal as soon as Jason calmed down
- d) Will not change because deep down Jason realises how much he loves his parents

*Natalie discusses how it felt getting her UAI results and relates to questions 32-33.*

After a sleepless night, it was finally time to check results out UAI results online. It was about 30 minutes before the official time they were to come out but I decided to check anyway. I get through on my first go and I hope this is a good sign. Clicking on the tab makes my heart pound and I close my eyes. Meanwhile I hear a gasp from my mother behind me. I don't know what to think, but I slowly open my eyes and see 99.95. I don't believe it and refresh the page. Still not convinced I log in once again but find the page has not changed. It was no mistake. I couldn't be happier ☺.

32. Prior to opening her results, the author was:

- a) Scared
- b) Worried
- c) Nervous
- d) Calm

33. Why did the author not know what to think when her mother gasped?

- a) She was not concentrating to what her mother had been saying
- b) She didn't know if it was a good or a bad gasp
- c) She expected the worse and was afraid to act disappointed in front of everyone
- d) She didn't know whether to look now or later.

*A reflection from Natalie, 3 years later, during her first experience in the operating theatre and refers to questions 34-36.*

Today was my first day observing in the operating theatre. I had been looking forward to this all week and found myself getting a bit anxious as the first patient was wheeled in. Not knowing what to do I stood in the corner and waited until someone spoke to me. In comes the head surgeon who introduces himself and asks me a few general questions. He then goes on to question me about the side effects and classification of the anaesthetic being injected into the patient. I froze, everything just flew out of my head, I couldn't even pronounce the name of the drug he mentioned. "I'm not sure" was all I could manage to get out. I felt my face flush. Anyway, he calmly explained to me what was going on and I really appreciated that. Then the nurses came in and equipment was being passed around, I was in the way and it was like they were talking in another language around me. Then the operation began and I was amazed at the way in which they remove a tumour the size of a coconut. I hope the woman will be ok.

34. When faced with a question she was unable to answer, Nat felt:

- a) Nervous then embarrassed
- b) Anxious then ashamed
- c) Scared then appreciative
- d) Uneasy then uncomfortable

35. As the surgery was about to begin Nat found the atmosphere in room:

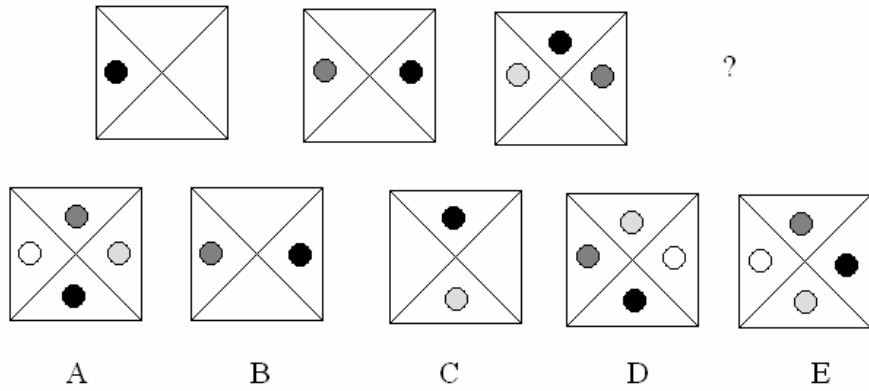
- a) Distressing
- b) Awkward
- c) Intimidating
- d) Unpleasant

36. Overall, Nat found the surgery to be:

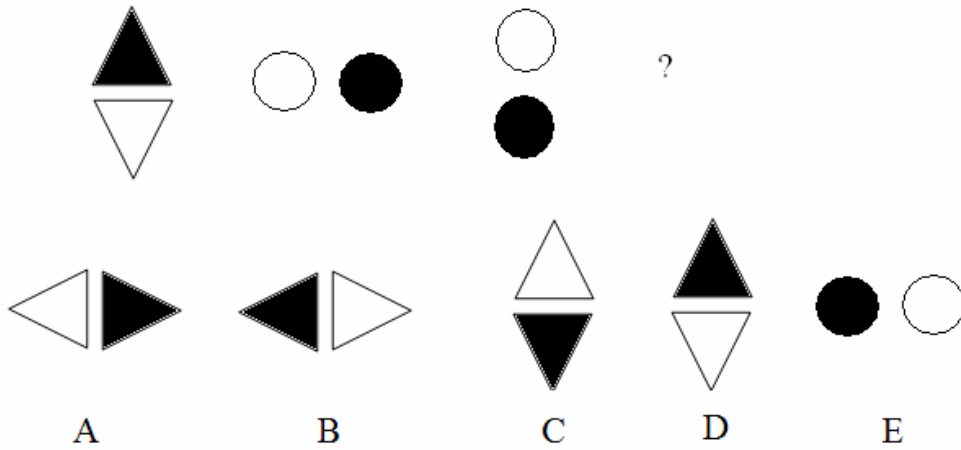
- a) A positive experience
- b) A negative experience
- c) A rewarding experience
- d) A morale boosting experience

**Section 3 – Non-Verbal Reasoning**

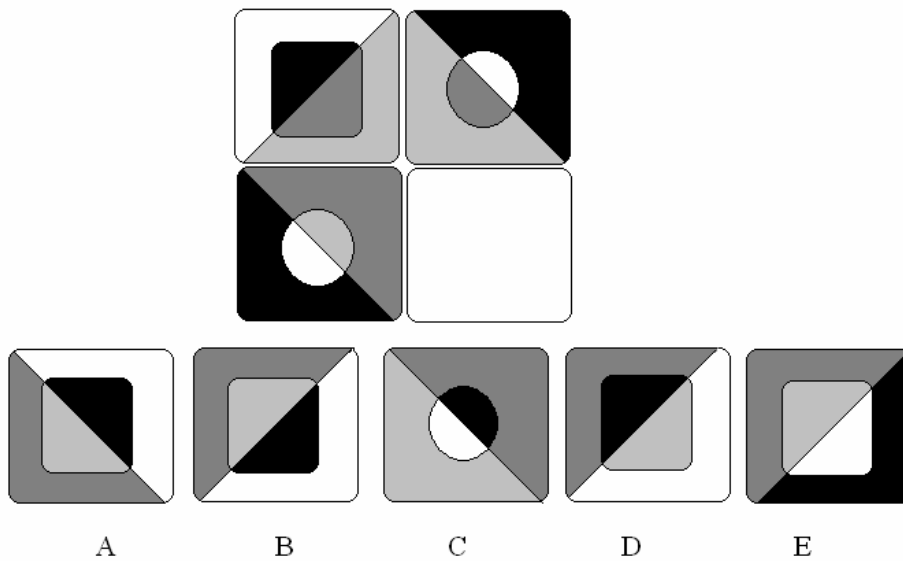
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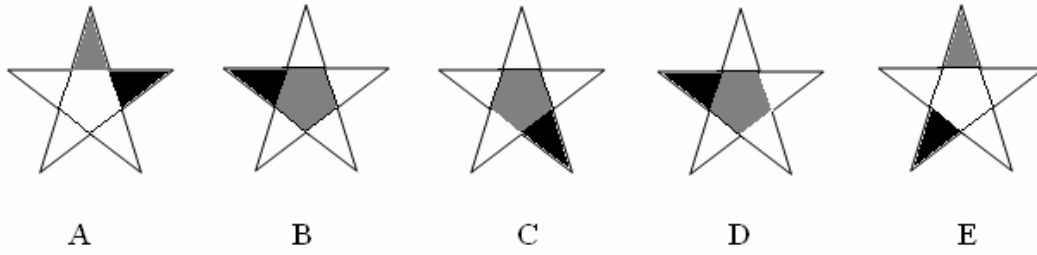
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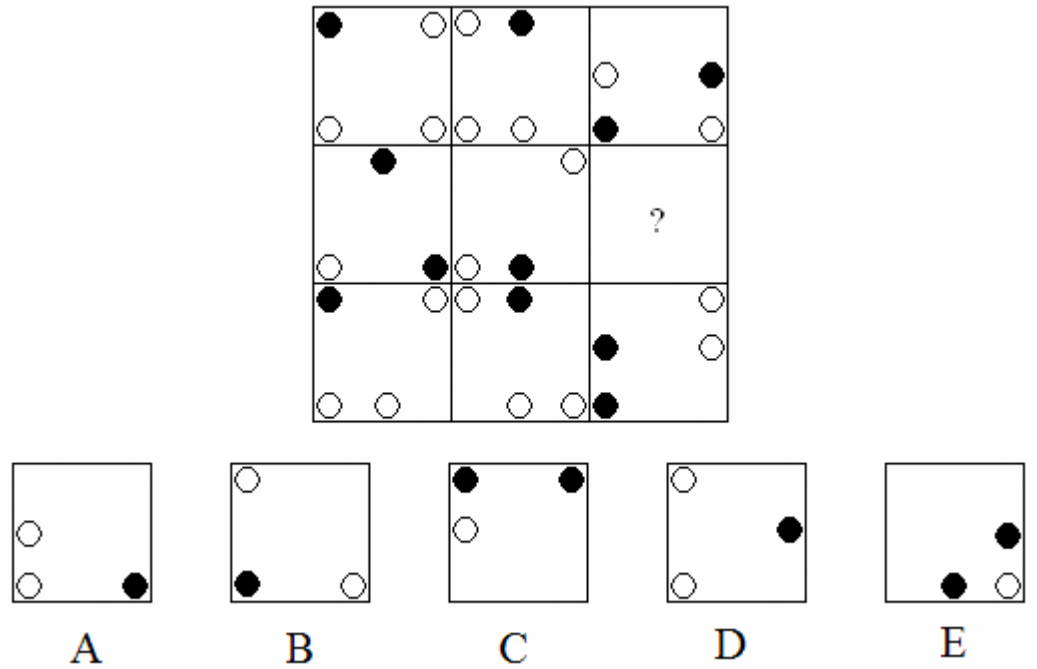
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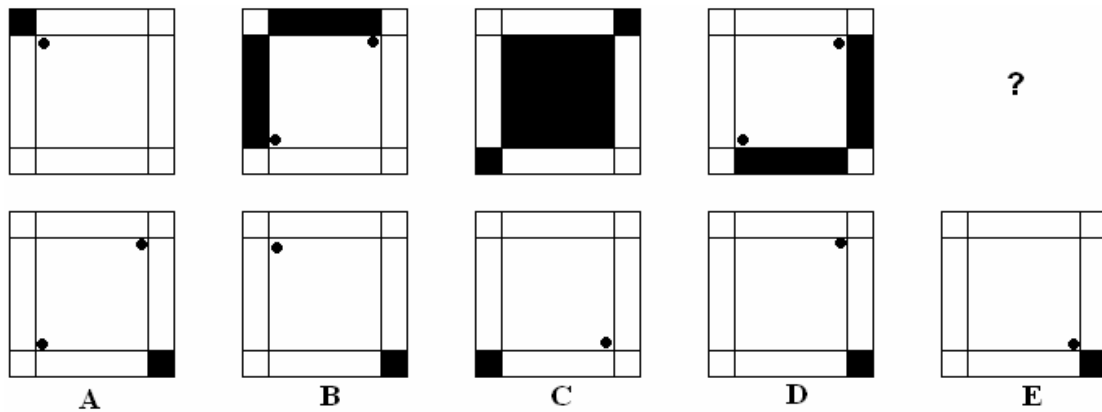
Question 4:



Question 5:

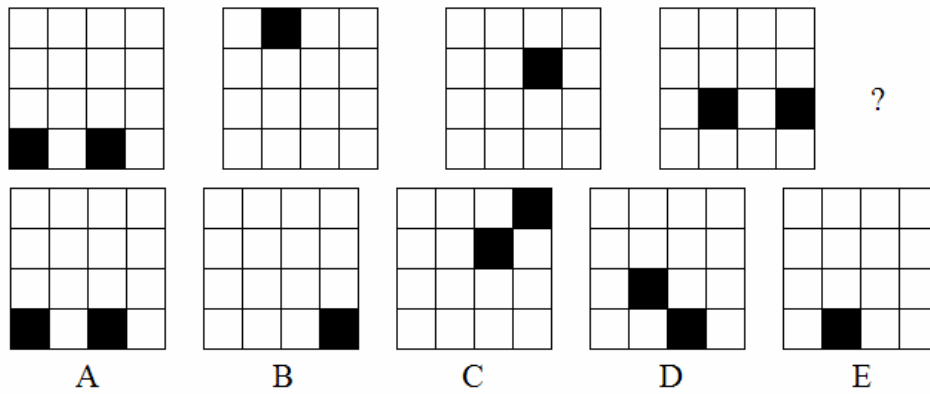


Question 6:

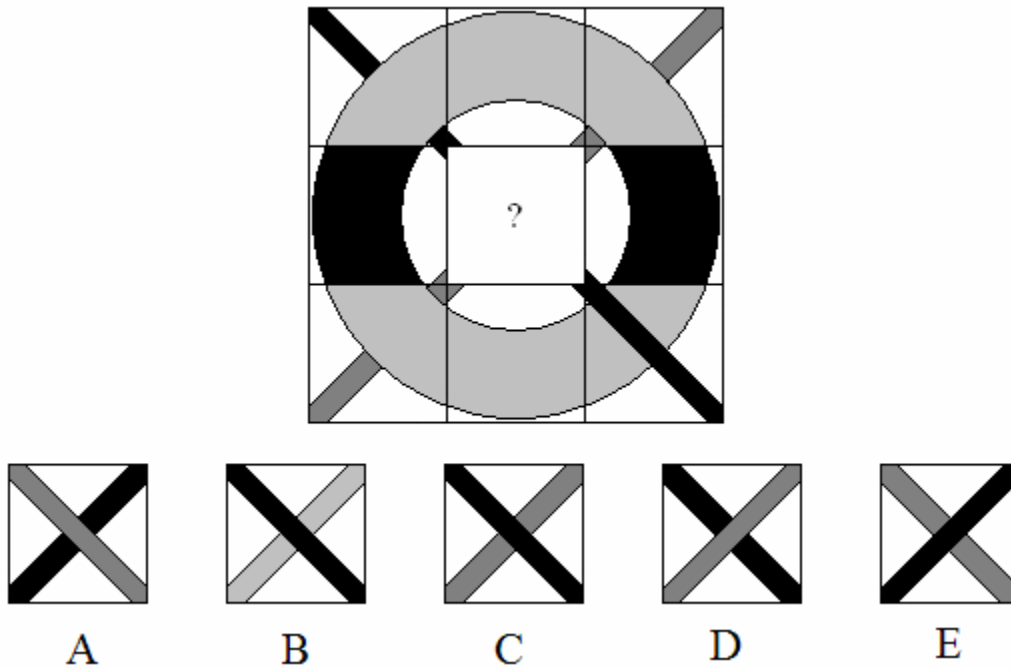




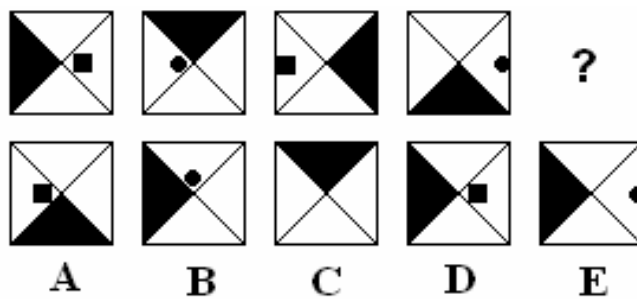
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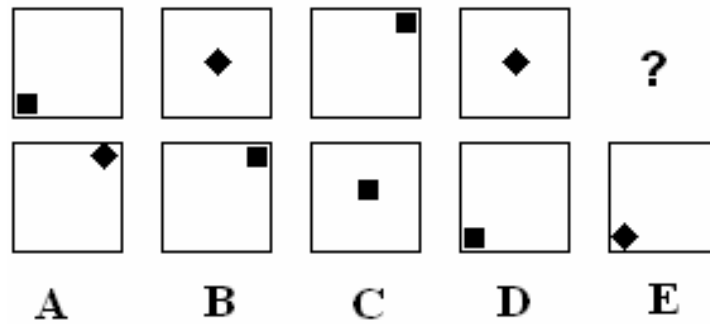
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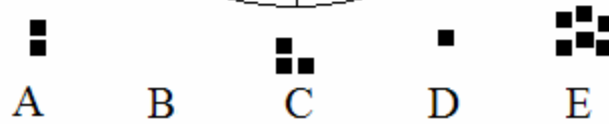
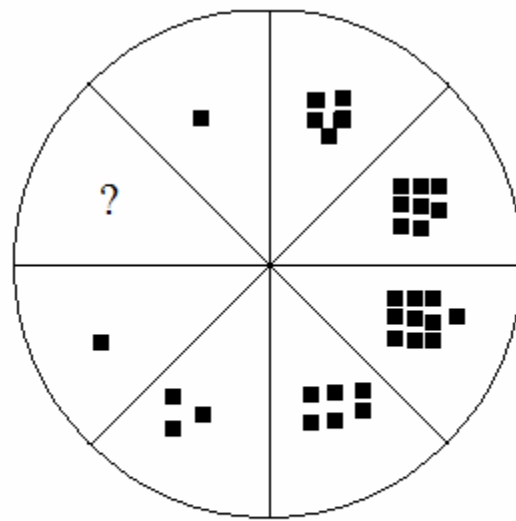
Question 9:



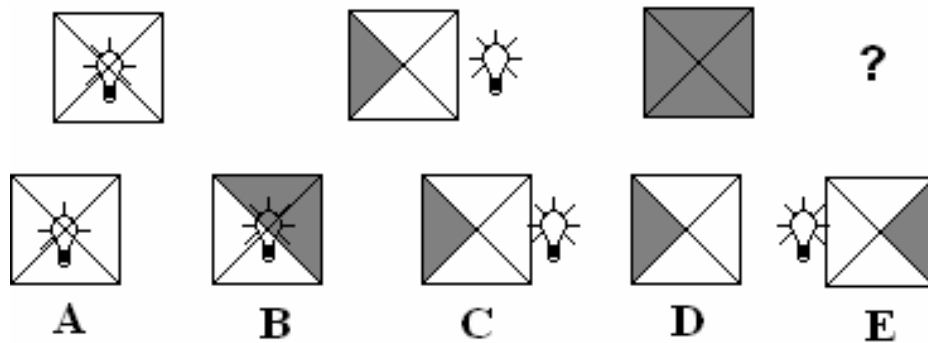
Question 10:



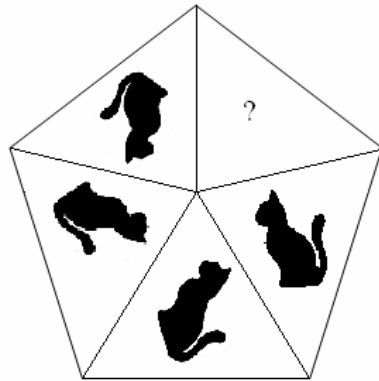
Question 11:



Question 12:



Question 13:



A



B



C

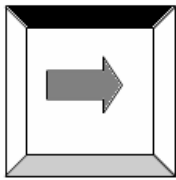


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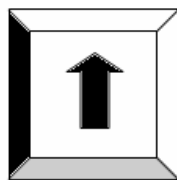


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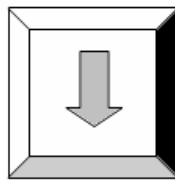
Question 14:



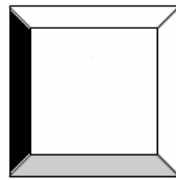
A



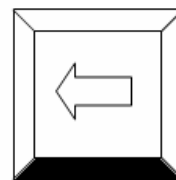
B



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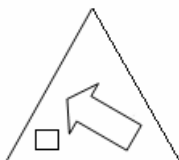
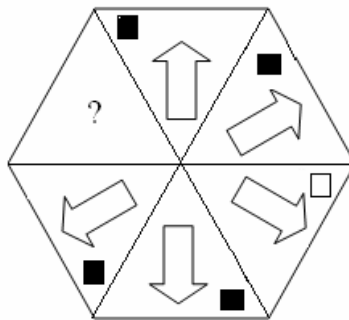


D



E

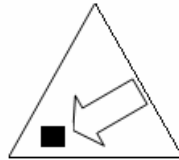
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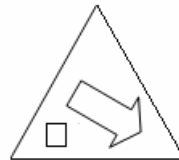
A



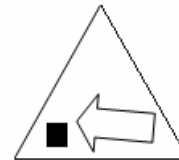
B



C

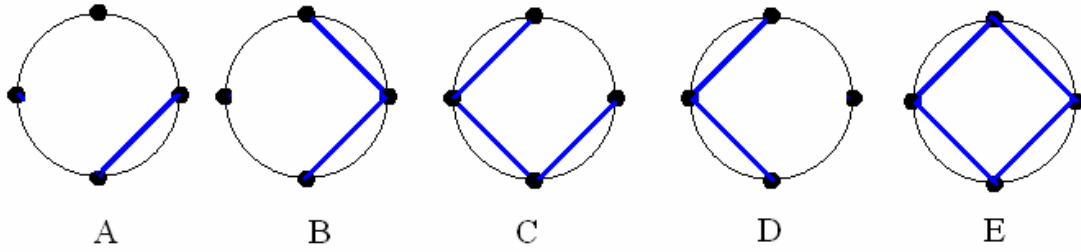


D

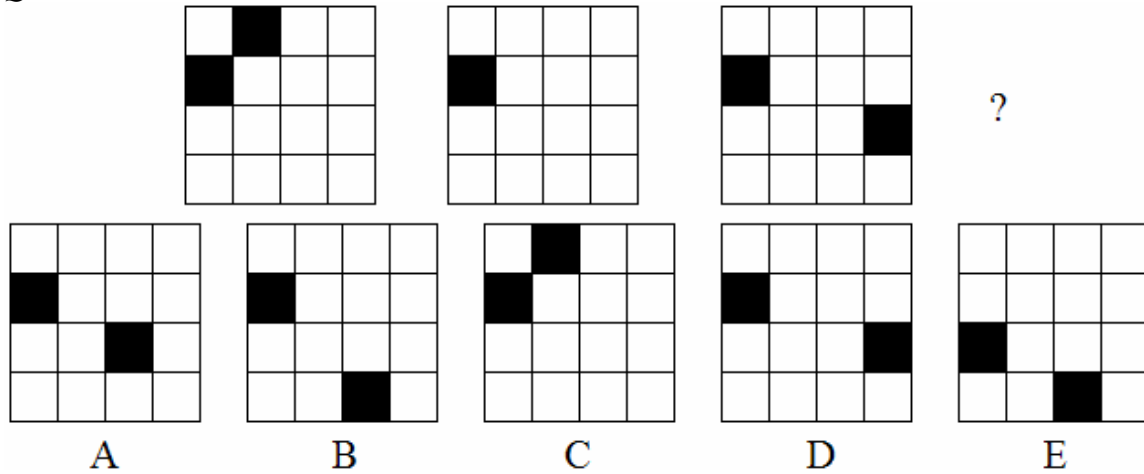


E

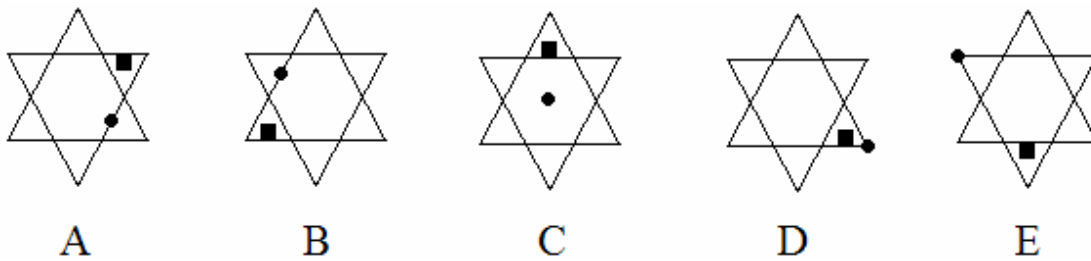
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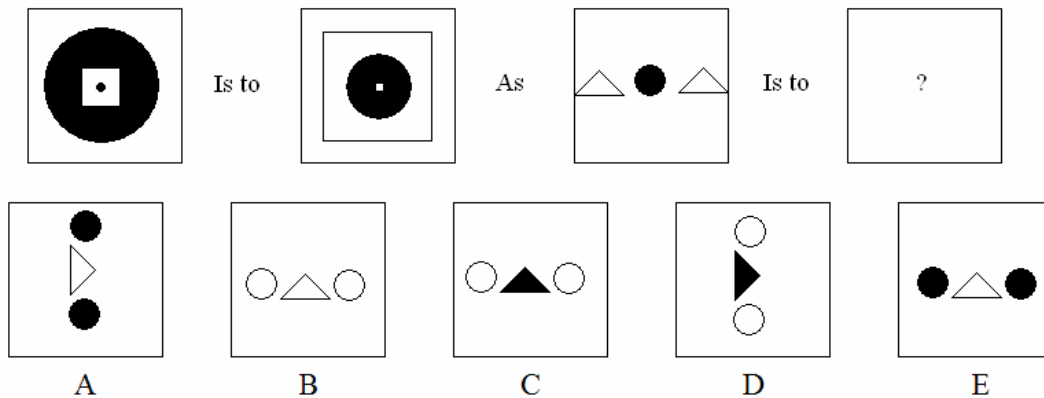
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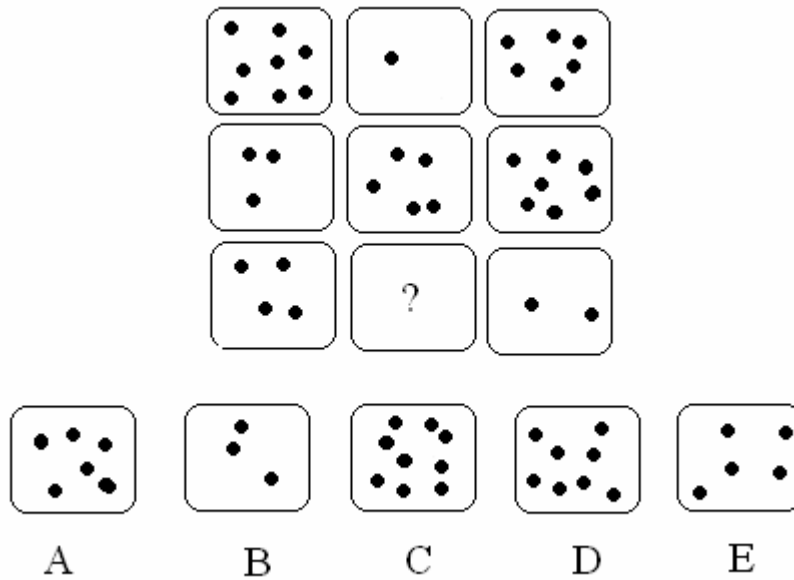
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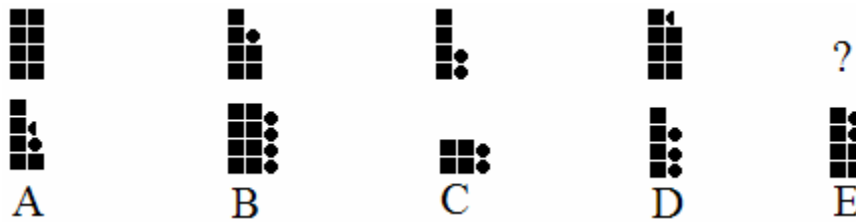
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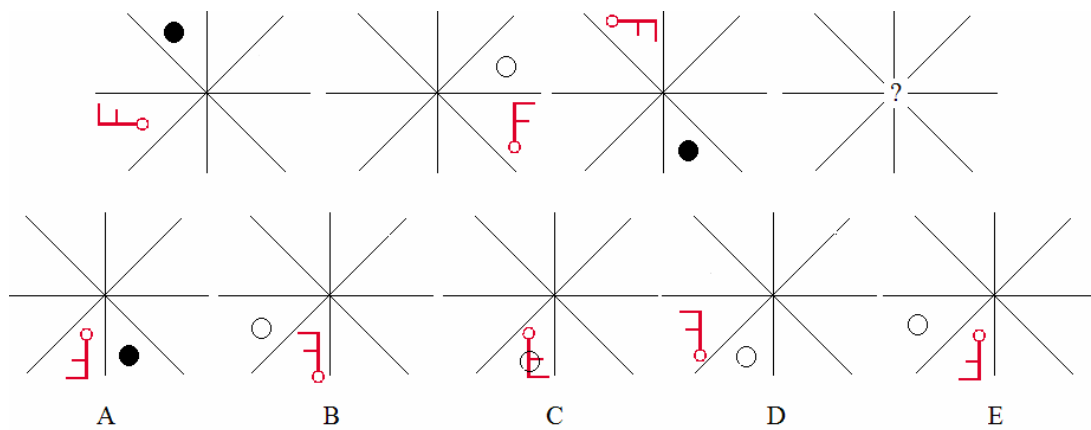
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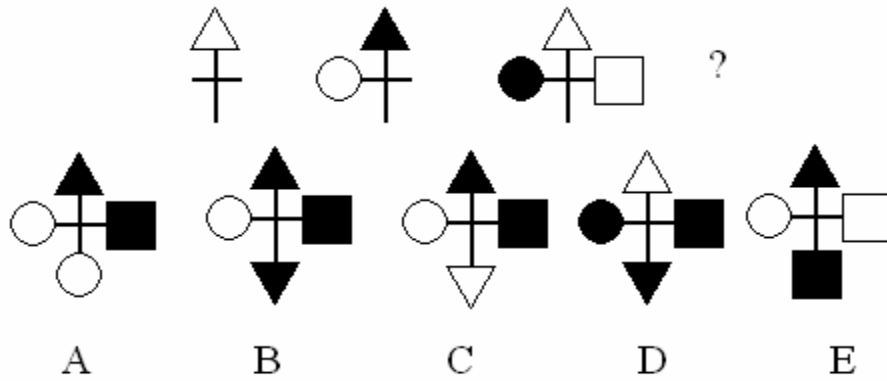
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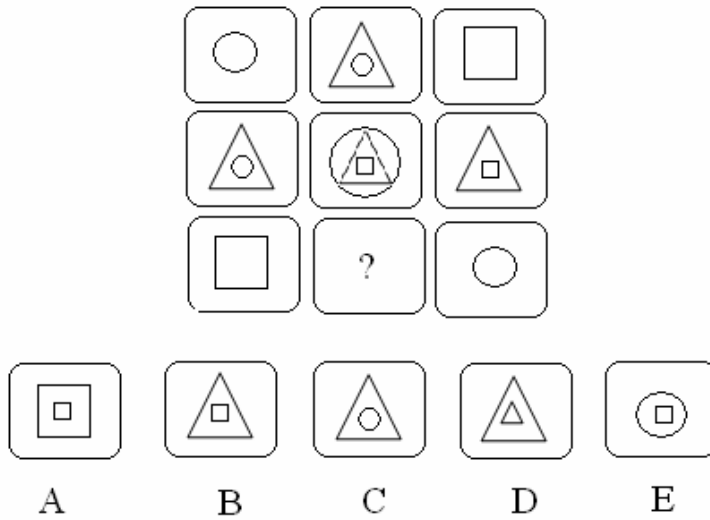
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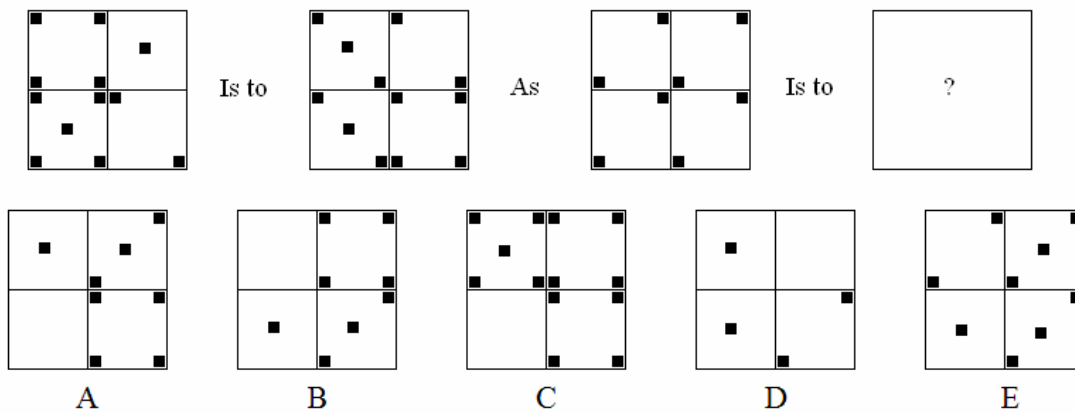
Question 23:



Question 24:



Question 25:



Question 26:

<b>3:09</b>	<b>4:16</b>	<b>5:25</b>	<b>6:36</b>	?
<b>2:04</b>	<b>7:42</b>	<b>7:14</b>	<b>6:89</b>	<b>7:49</b>
A	B	C	D	E

Question 27:

A B C D E

Question 28:

A B C D E

Question 29:



A



B



C

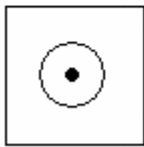
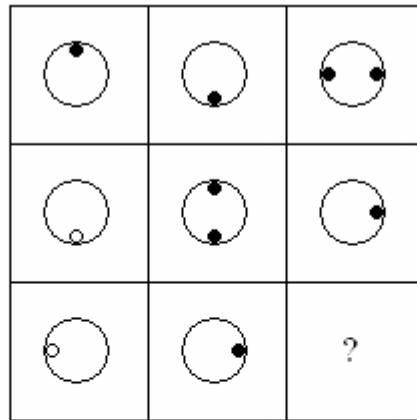


D

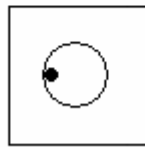


E

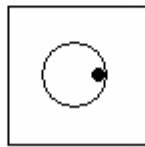
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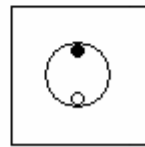
A



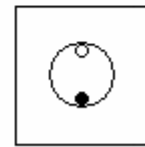
B



C



D



E