KAPLAN

TEST PREP AND ADMISSIONS

BMAT Sample Questions

2009

- Section 1: Aptitude and Skills
- Section 2: Scientific Knowledge and Applications

SAMPLE QUESTIONS

SECTION 1: APTITUDE AND SKILLS

TIME: 7 MINUTES

DIRECTIONS: Answer every question. Points are awarded for correct answers only. There are no penalties for incorrect answers.

All questions are worth 1 mark.

Some questions have more than 1 correct answer. Read carefully to ensure that you select the appropriate number of answers. Answers for short-answer questions must fit in the space provided.

Calculators are not permitted during any portion of the test.

1   A conductor of an orchestra makes the following remarks about the composers that her musicians adore:

All musicians in the orchestra adore Handel. Some cellists adore Schumann, and some adore Bach. All flautists adore Mozart, and some adore Rimsky-Korsakov. No percussionist adores Bach, and all percussionists adore Rimsky-Korsakov.

Based on the conductor's remarks, which of the following statements must be true?

A   Some cellists adore Handel, but not Schumann or Bach.

B   Some cellists adore both Schumann and Bach.

C   Some flautists adore Bach.

D   Some flautists adore three composers.

E   Some percussionists adore three composers.

2   An electricals shop lowers the price of a digital camera each day of a bank holiday weekend. On Saturday, the price of the camera is lowered by 10 per cent from its price on Friday. On Sunday, the price is lowered 10 per cent from its price on Saturday. On Monday, the price is lowered by 10 per cent from its price on Sunday. The price of the camera on Monday is what percentage of its price on Friday?
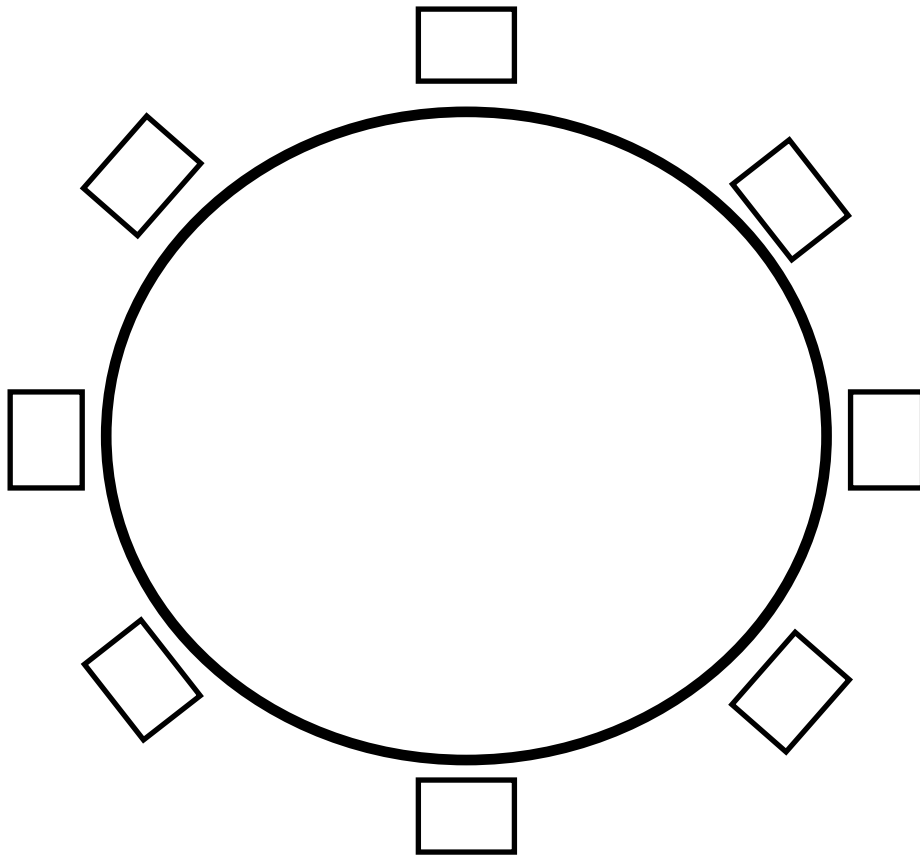
$$\boxed{}\boxed{}.\boxed{}\%$$

3   Media coverage of organ donation has increased as the Government considers making the donor registry 'opt-out', rather than 'opt-in'. Every week, newspapers and TV reports are filled with grim stories and statistics of waiting lists and deaths of those waiting for a transplant. Regardless of any changes to legislation, the media could do more to increase organ donation at present. For example, the frequent news reports on the need for more donated organs rarely mention how, exactly, members of the public can 'opt-in' to the donor registry. This practice stands in stark contrast to the presentation of such stories in other countries, such as the USA and Canada, where stories on the need for more organ donors almost always end with contact details for joining the donor registry. Providing viewers with a phone number or website for joining the registry is seen as a public service, part of the media's responsibility in calling attention to such a problem.

Which of the following best summarises the main conclusion of the argument?

A   It's easier to become an organ donor in the USA or Canada than in the UK.

B   Sometimes the media can help to solve the problems it identifies.

C   The Government wants to make organ donation compulsory.

D   Many people die waiting for organs each year as there are too few donors opting-in to the registry.

E   Everyone should be required to join the organ donor registry.

4 Shannon and Dave are hosting a dinner party for six friends. The surface of the dining table is circular, with chairs set out equal distances around its circumference, as shown below. Each chair is directly opposite one other chair.

Dave prefers to sit directly opposite Shannon. Rachael and James are a couple, and prefer to sit next to each other. Ben fancies Lola, and he's a bit shy, so he prefers to sit directly opposite her. Dave and Shannon can't stand Patrick, whom Cindy is seeing, so neither of them will sit next to him.

If the seating plan meets everyone's preferences, what is the probability that Cindy will be seated directly opposite Rachael?

A $\frac{1}{16}$

B $\frac{1}{12}$

C $\frac{1}{6}$

D $\frac{1}{2}$

SECTION 2: SCIENTIFIC KNOWLEDGE AND APPLICATIONS

TIME: 4 MINUTES

DIRECTIONS: Answer every question. Points are awarded for correct answers only. There are no penalties for incorrect answers.

All questions are worth 1 mark.

Some questions have more than 1 correct answer. Read carefully to ensure that you select the appropriate number of answers.

Calculators are not permitted during any portion of the test.

1   Haemophilia B (Christmas disease) is an X-linked recessive disorder. Both Jane's father and maternal grandfather suffer from Haemophilia B.

Which of Jane's relatives is neither a carrier of, nor suffers from, Christmas disease?

    A   Her sister

    B   Her father's monozygotic twin

    C   Her maternal uncle

    D   Her maternal aunt

    E   Her paternal grandmother

2   Concerning acids:

I   Citric acid ionises partially in aqueous solution

II   A 1 M solution of ethanoic acid has the same concentration of H^+(aq) as a 1 M solution of nitric acid

III   A 1 M solution of hydrochloric acid is a better conductor of electricity than a 1 M solution of lactic acid.

Which of the following choices lists the correct statements above?

    A   I only

    B   II only

    C   III only

    D   I and II only

    E   I and III only

    F   II and III only

    G   I, II and III

3   Three points in the (x, y) coordinate plane lie at:

(a, b)
$(a + 3\sqrt{2}, b)$
$(a + \sqrt{2}, b - 4\sqrt{2})$

What is the area of the triangle described by these coordinates?

A $\sqrt{2}$

B   6

C $5\sqrt{2}$

D   12

E $12\sqrt{2}$

4   A laser is shone through a small circular hole, and the image is projected onto a screen.

Which of the following choices represents the pattern shown on the screen?

A

B

C

D

E