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# Practice Paper 1



## Space and the Human Body

Humans are not made for space travel. The microgravity environment of outer space causes several challenging health hazards.

5 One problem is swollen heads. Reduced gravity affects the water that makes up nearly two-thirds of our bodies. In space, fluids, including blood, rise up into the skull, puffing it up. Correspondingly, the legs begin to deteriorate as they lose their normal amount of fluid. Bones lose density and weaken. “It kind of feels like you would feel if you hung upside down for a couple of minutes,” explained astronaut Mark E. Kelly, an American space shuttle pilot between 2001 and 2010.

10 In addition, there can be vision issues. It seems that some astronauts’ eyeballs flatten and, as a result, they become farsighted – they can’t easily see things close-up. But the most serious issue is radiation. For without the protection of our atmosphere, space travellers are exposed to harmful doses that increase their chances of getting cancer.

NASA scientists are working hard to solve the problems they are aware of. But there are always the unforeseen ones, those they call the ‘unknown unknowns’. One unknown, for instance, is how additional time astronauts spend in space will affect the problems described above.

15 Time for solutions is short, for NASA’s plan is to send astronauts to Mars within 20 years or so. Thus far, the longest anyone has spent in space is about 438 days. That record was set in 1994-5 by Valeri Polyakov, a Russian cosmonaut. It was only his second trip into space, to work on the Mir space station. The average time spent on space station missions is 2-3 months. But a return trip to Mars would probably take at least 3 years.

20 To investigate the effects of space travel on the human body, NASA conducted a lengthy study with the help of Mark Kelly and his identical twin brother, Scott Kelly, also an astronaut. While Scott went to space for a year, Mark stayed on Earth. Scientists conducted up to 10 tests a day, comparing the twins’ initially identical bodies during this time. Their psychological wellbeing was also under scrutiny. One day, people will make the journey to Mars and it will be arduous in the extreme. The knowledge gained from NASA’s  
25 study on the astronaut twins will help travellers to prepare for the trials that will lie ahead.

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**Carefully read through the passage above and circle the correct answers below.**

1 What percentage of the human body is made up of water?

- A.** approximately 30%                      **C.** approximately 50%  
**B.** approximately 2.5%                      **D.** approximately 60%

2 Why do heads swell up in space?

- A.** Fluid collects in the head.                      **C.** Bones lose their strength.  
**B.** Astronauts hang upside down.                      **D.** Nobody knows.

/2



In the following questions, circle the correct answer from the options A to E.

16 What is four-fifths as a decimal?

A	B	C	D	E
0.60	0.75	0.80	0.65	0.85

17 Which sum of money, when multiplied by nine, equals £126?

A	B	C	D	E
£12	£13	£14	£20	£15

18 How many days are there in 15 weeks?

A	B	C	D	E
105 days	110 days	112 days	118 days	120 days

19 What is the difference, in kilometres, between 34,280 metres and 12,170 metres?

A	B	C	D	E
2211km	22.11km	221.1km	2.221km	0.221km

20 If  $420 \times 150 = 63,000$ , what would  $420 \times 75$  equal?

A	B	C	D	E
126,000	30,000	31,750	30,500	31,500

21 Round 6442.08 to the nearest 10.

A	B	C	D	E
6440	6400	6410	6450	6420

22 Which one of the following numbers is not a squared number?

A	B	C	D	E
16	225	144	64	27



**Circle the word which has the most similar meaning to the word on the left.**

- |    |           |            |          |            |             |
|----|-----------|------------|----------|------------|-------------|
| 9  | windy     | blistery   | blustery | balmy      | breathy     |
| 10 | care      | foresight  | poise    | caution    | function    |
| 11 | dangerous | chivalrous | perilous | disastrous | adventurous |
| 12 | separate  | detach     | deduct   | reduce     | remit       |
| 13 | lift      | elaborate  | elongate | enlarge    | elevate     |
| 14 | show      | announce   | endorse  | exhibit    | promote     |
| 15 | rapid     | swift      | scant    | smart      | stout       |
| 16 | warm      | aired      | fluid    | humid      | tepid       |

/8



**Circle the word which you would most associate with the word on the left.**

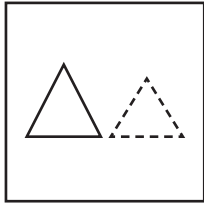
- |    |            |            |             |             |             |
|----|------------|------------|-------------|-------------|-------------|
| 17 | wharf      | bicycle    | boat        | train       | lorry       |
| 18 | needle     | connection | reflection  | injection   | inspection  |
| 19 | playwright | theatre    | hospital    | museum      | library     |
| 20 | mind       | coronation | imagination | destination | resignation |
| 21 | egg        | struggle   | tussle      | scramble    | shuffle     |
| 22 | wheel      | resolve    | relapse     | return      | revolve     |
| 23 | news       | waiter     | reporter    | dentist     | architect   |
| 24 | mirror     | retreat    | react       | reflect     | reject      |

/8

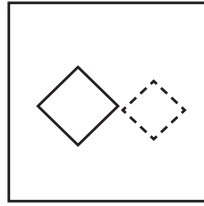


Tick the picture which is the odd one out from the options A to E.

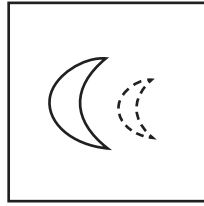
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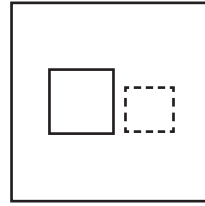
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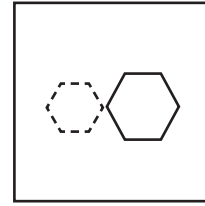
B



C

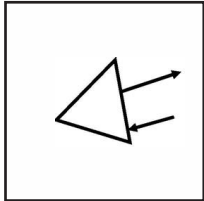


D

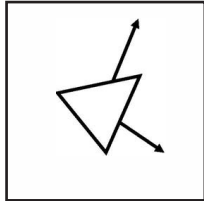


E

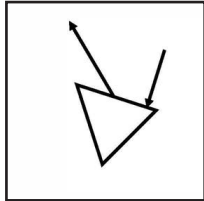
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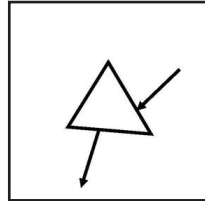
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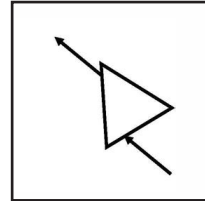
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C

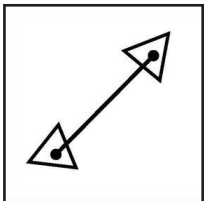


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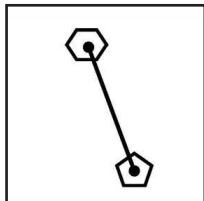


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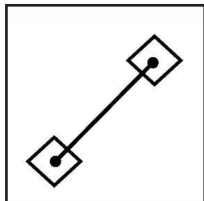
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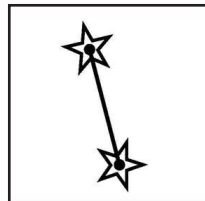
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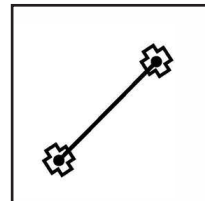
B



C

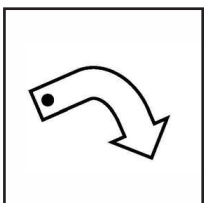


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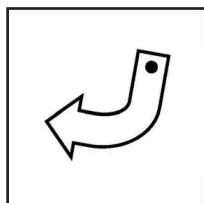


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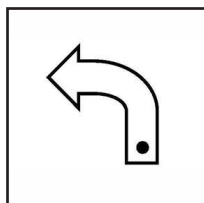
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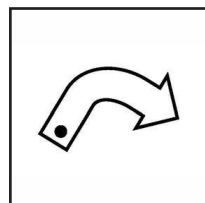
A



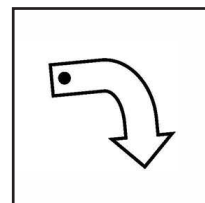
B



C

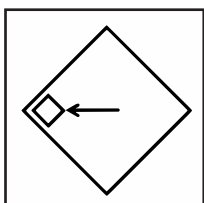


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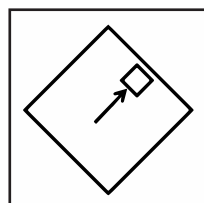


E

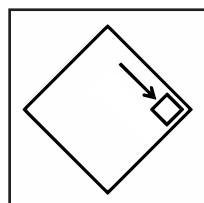
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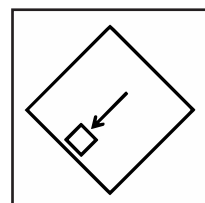
A



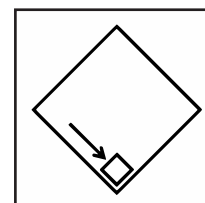
B



C



D



E

/5

# Practice Paper 6



Write the answer to each calculation in the boxes below.

1

Lucy, Zara and Arjun are all managing the cookie stall at the school fete and they have a total of 200 cookies to sell.

Lucy sells 67 cookies.

Zara sells 58 cookies.

Arjun sells 54 cookies.

How many cookies remain unsold?

2

There are 48 passengers on a double-decker bus.

Two-thirds of the passengers are seated upstairs.

How many passengers are seated downstairs on the bus?

3

Kiana has a bookcase where she keeps all her 125 books.

Each shelf has exactly the same number of books on it.

There are five shelves.

How many books are there on each shelf?

4

There are 44 tents on a campsite.

Thirty of the tents have three people camping in them and the remainder of the tents have four people camping in them.

How many campers are there at the campsite in total?

/4