

# Introduction

Of the different methods that purport to measure intelligence, the most famous is the IQ (Intelligence Quotient) test, which is a standardised test designed to measure human intelligence as distinct from attainments.

Intelligence quotient is an age-related measure of intelligence level. The word quotient means the result of dividing one quantity by another, and one definition of intelligence is mental ability or quickness of mind.

Usually, IQ tests consist of a graded series of tasks, each of which has been standardised with a large representative population of individuals in order to establish an average IQ of 100 for each test.

It is generally accepted that a person's mental ability develops at a constant rate until about the age of 13, after which development has been shown to slow down, and beyond the age of 18 little or no improvement is found.

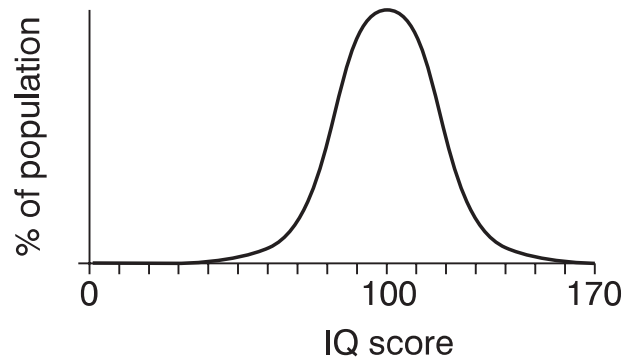
When the IQ of a child is measured, the subject attempts an IQ test that has been standardised, with an average score recorded for each age group. Thus a 10-year-old child who scored the result that would be expected of a 12-year-old would have an IQ of 120, or  $12/10 \times 100$ :

$$\frac{\text{mental age (12)}}{\text{chronological age (10)}} \times 100 = 120 \text{ IQ}$$

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Because after the age of 18 little or no improvement is found, adults have to be judged on an IQ test whose average score is 100, and the results graded above and below this norm according to known test scores.

Like so many distributions found in nature, the distribution of IQ takes the form of a fairly regular bell curve (see Figure 0.1 below) in which the average score is 100 and similar proportions occur both above and below this norm.



**Figure 0.1** The bell curve

There are a number of different types of intelligence tests, for example Cattell, Stanford-Binet and Wechsler, and each have their own different scales of intelligence.

The Stanford-Binet is heavily weighted with questions involving verbal abilities and is widely used in the United States of America. The Weschler scales consist of two separate verbal and performance sub-scales each with its own IQ rating. On the Stanford-Binet scale half the population fall between 90 and 110 IQ, half of them above 100 and half of them below; 25 per cent score above 110; 11 per cent above 120; 3 per cent above 130 and 0.6 per cent above 140. At the other end of the scale the same kind of proportion occurs.

Although it is IQ tests that we are specifically concerned with in this book it should be pointed out that IQ tests are just one part of what is generally referred to as psychometric testing. Such

test content may be addressed to almost any aspect of our intellectual or emotional make-up, including personality, attitude, intelligence or emotion. Psychometric tests are basically tools used for measuring the mind; the word metric means *measure* and the word psycho means *mind*. There are two types of psychometric tests that are usually used in tandem by employers. These are aptitude tests, which assess your abilities, and personality questionnaires, which assess your character and personality.

Aptitude tests are also known as cognitive, ability or intelligence (IQ) tests. Such tests are designed to test your ability to comprehend quickly under strictly timed conditions. Cognition may be broadly defined as knowing, perceiving and thinking and it is studied by psychologists because it reveals the extent of a person's ability to think.

There are many different types of tests. However, a typical test might consist of three sections each testing a different ability, usually comprising verbal reasoning, numerical ability and diagrammatic, or spatial, reasoning. In order to give you the opportunity to practise on all types of questions that you are likely to encounter in actual IQ tests, the tests that have been specially compiled for this book are multi-discipline and include a mix of verbal, numerical and diagrammatic questions, as well as additional questions involving logical thought processes as well as a degree of lateral thinking.

In the past 25 years psychometric testing has been brought into widespread use in industry because of the need for employers to ensure they place the right people in the right job at the outset. One of the main reasons for this is the high cost of errors in today's world of tight budgets and reduced profit margins. To recruit a new member of staff an employer has to advertise, consider each application, reduce the applicants to a shortlist, interview and then train the successful applicant. If the wrong hiring choice has been made, then the whole expensive process has to be repeated.

It is important that such tests are evaluated in tandem with each other as if a person scores well on an aptitude test it does not necessarily mean that they will be suited to the job, as whilst you may be good at doing something, you may dislike it intensely, and success in most tasks is heavily dependent on your personal qualities and your attitude.

Although it is generally accepted that a person's IQ remains constant throughout life, and, therefore, it is not possible to increase your actual IQ, it is possible to improve your performance on IQ tests by practising the many different types of question, and learning to recognise the recurring themes.

Besides their uses in improving one's performance on IQ tests, practice on the type of questions contained in this book has the added advantage of exercising the brain. Our brain needs exercise and care in the same way as other parts of the body. We eat the right foods to keep our heart healthy, we moisturise our skin to keep it from drying out and, just as gymnasts strive to increase their performance at whatever level they are competing by means of punishing training schedules and refinement of technique, there are exercises, or mental gymnastics, we can do to increase the performance of our brain and enhance quickness of thought.

Many people still have the outdated belief that there is little they can do to improve the brain they are born with and that brain cells continually degenerate with age: but, in fact, our brain cells continually develop new and stronger connections and adult brains can grow new cells irrespective of age.

The main thing is to use your brain continually. For example, the more we practise at tests of verbal aptitude the more we increase our ability to understand the meaning of words and use them effectively; the more we practise at maths the more confident we become when working with numbers, the better our ability to perform arithmetic operations accurately, and the quicker we become at performing these opera-

tions; and the more we practise our ability to move our fingers and manipulate small objects the more dextrous we become at operations involving this type of aptitude, and the quicker we become at performing them accurately.

The tests that follow have been newly compiled for this book and are not, therefore, standardised, so an actual IQ assessment cannot be given. However, a guide to assessing your performance for each test is provided below as well as a cumulative guide for your overall performance on all 10 tests.

A time limit of 90 minutes is allowed for each test. The correct answers are given at the end of the test, and you should award yourself one point for each completely correct answer. Calculators may be used to assist with solving numerical questions if preferred.

Use the following table to assess your performance:

**One test:**

<i>Score</i>	<i>Rating</i>
36–40	Exceptional
31–35	Excellent
25–30	Very good
19–24	Good
14–18	Average

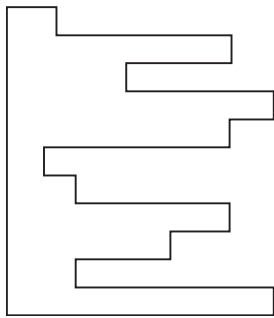
**Ten tests:**

<i>Score</i>	<i>Rating</i>
351–400	Exceptional
301–350	Excellent
241–300	Very good
181–240	Good
140–180	Average

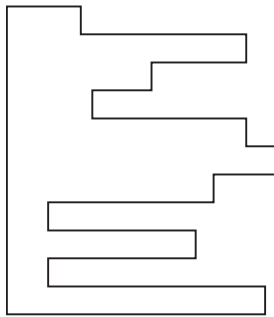
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# Test One: Questions

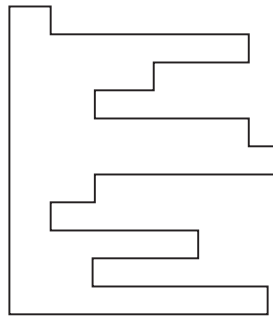
1.



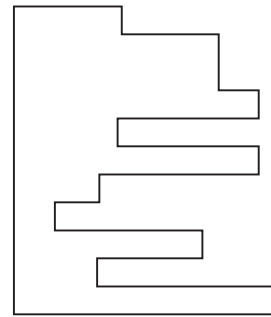
Which piece below, when fitted into the piece on the left, will form a perfect square?



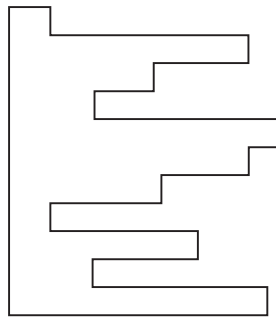
A



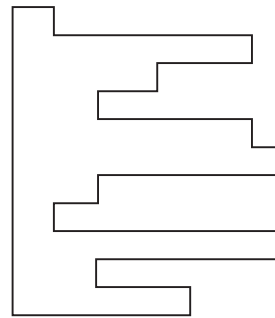
B



C



D



E

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2. Which word in brackets is most opposite to the word in capitals?

PROSCRIBE (allow, stifle, promote, verify, indict)

3. 0, 1, 2, 4, 6, 9, 12, 16, ?

What number should replace the question mark?

4. Which number is the odd one out?

9678 4572 5261 5133 3527 6895 7768

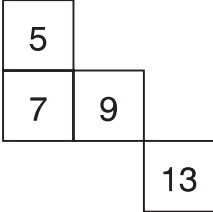
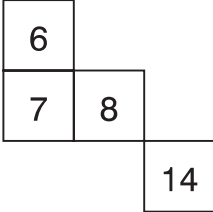
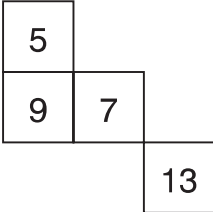
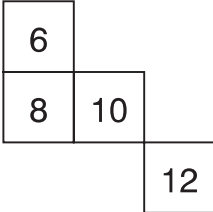
5. Isotherm is to temperature as isobar is to: atmosphere, wind, pressure, latitude, current



6.

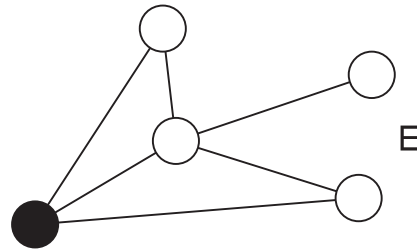
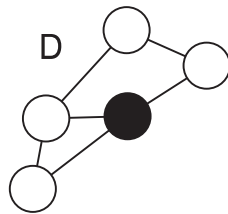
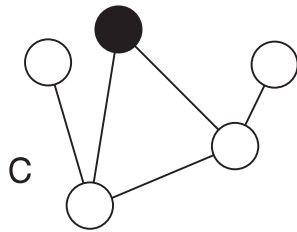
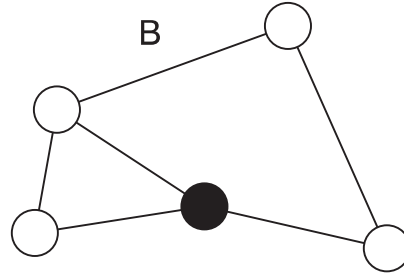
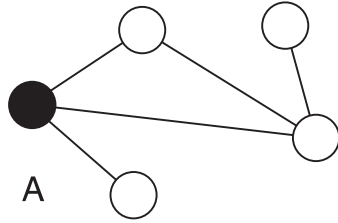
1	2	4	7
4	?	7	10
6	?	?	12
7	8	10	?

Which is the missing section?



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7. Which is the odd one out?

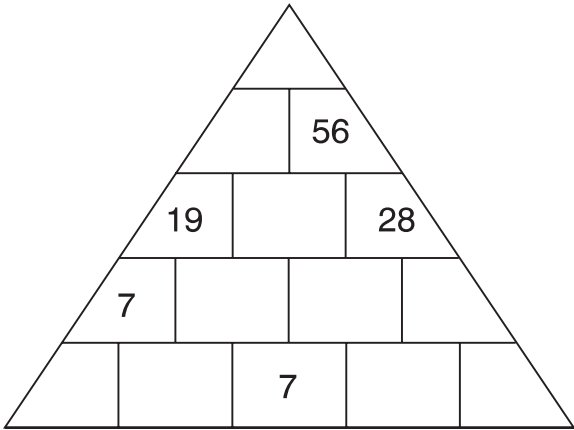


8. Identify two words (one from each set of brackets) that have a connection (analogy) with the words in capitals and relate to them in the same way.

GRAM (energy, weight, scales)

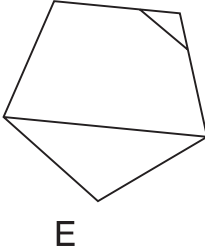
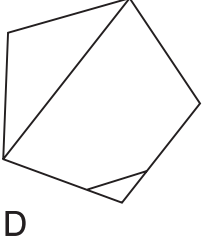
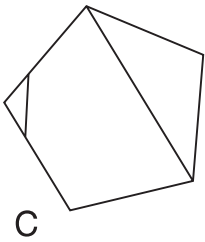
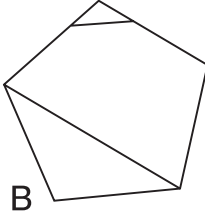
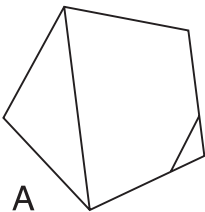
KNOT (water, rope, speed)

9.



Each number in the pyramid is the sum of the two numbers immediately below it. Fill in the pyramid with the missing numbers.

10. Which is the odd one out?



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11. How many minutes is it before 12 noon, if 48 minutes ago it was twice as many minutes past 9 a.m.?
12. Complete the five words below in such a way that the two letters that end the first word also start the second word, and the two letters that end the second word also start the third word etc. The same two letters that end the fifth word also start the first word, to complete the cycle.

\*\* IV \*\*

\*\* OT \*\*

\*\* IC \*\*

\*\* NG \*\*

\*\* RA \*\*

13. Which is the odd one out?

heptagon, triangle, hexagon, cube, pentagon

14. Switch A turns lights 1 and 2 on/off or off/on

Switch B turns lights 2 and 4 on/off or off/on

Switch C turns lights 1 and 3 on/off or off/on

○ = ON

● = OFF

Switches C, A and B are thrown in turn with the result that Figure 1 turns into Figure 2. Which switch does not work at all?

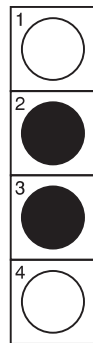


Figure 1

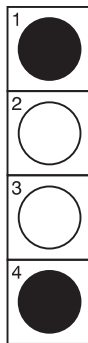
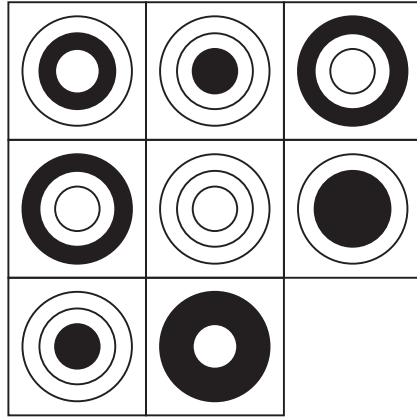


Figure 2

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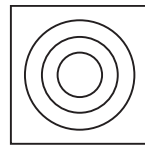
15.



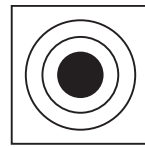
Which is the missing tile?



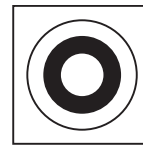
A



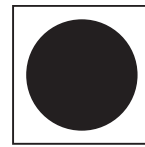
B



C



D



E

16. Which word in brackets is closest in meaning to the word in capitals?

BRUNT (dull, edifice, impact, tawny, nonsense)

17. Which of the following is not an anagram of a type of food?

PAST EIGHT

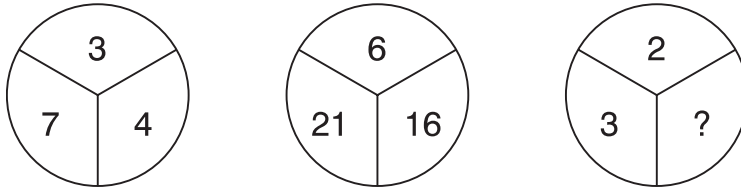
I CAN ROAM

WIN BOAR

CAN PEAK

COOL CHEAT

18.



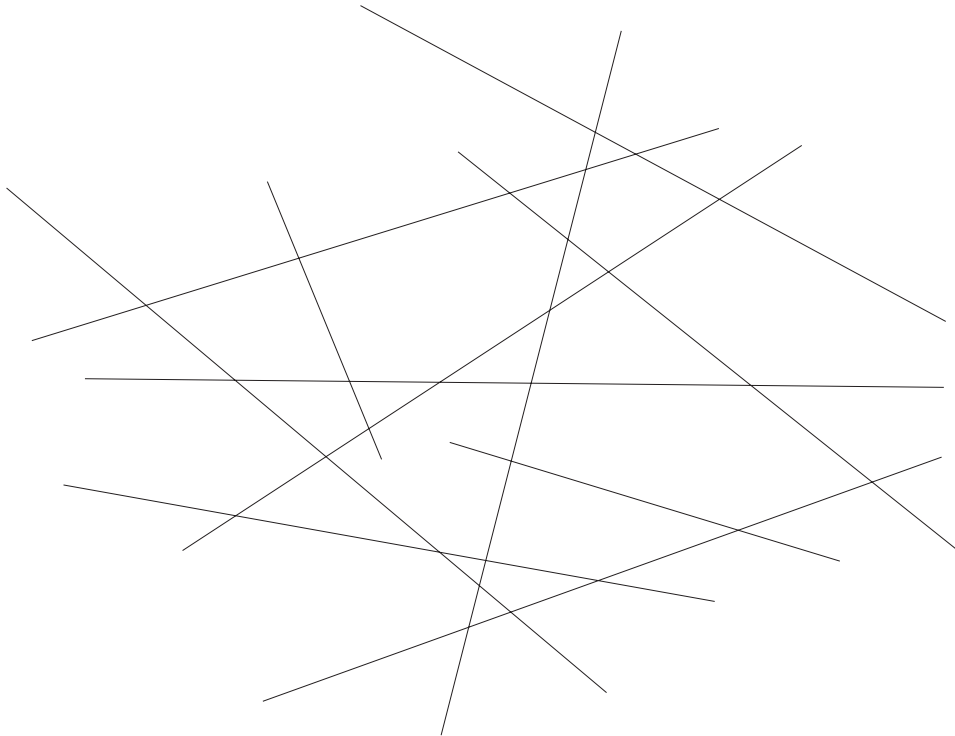
What number should replace the question mark?

19.

N	O	I	
A	R	O	S
L		F	E

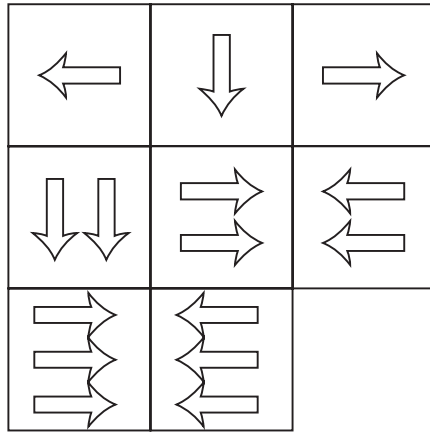
Work from square to adjacent square horizontally or vertically (but not diagonally) to spell out a 12-letter word. You must find the starting point, and provide the missing letters.

20. How many lines appear below?

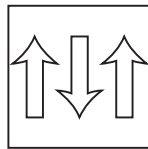


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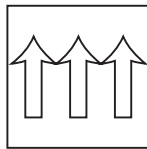
21.



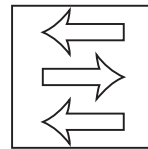
Which is the missing tile?



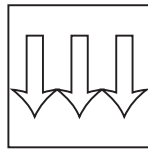
A



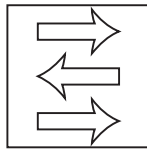
B



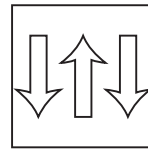
C



D



E



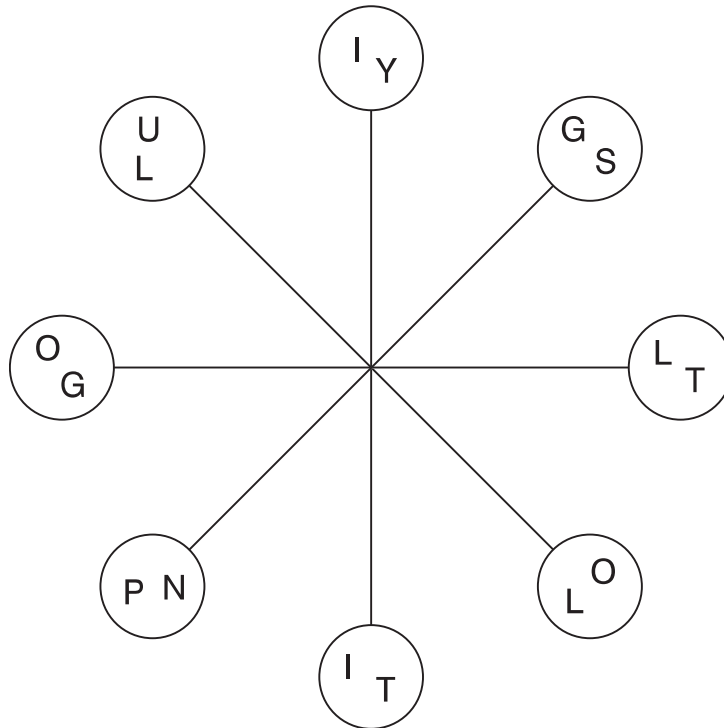
F

22.  $6\frac{7}{8}$ ,  $2\frac{9}{16}$ ,  $5\frac{5}{8}$ ,  $3\frac{13}{16}$ ,  $4\frac{3}{8}$ , ?

What number should replace the question mark?



23.



Work clockwise round the circles to spell out two eight-letter words that are synonyms. Each word commences in a different circle, and you must find the starting point of each. Every letter is used once each and all letters are consecutive.

24. 10, 30, 32, 96, 98, 294, 296, ?, ?

What two numbers should replace the question marks?

25. able, rot, son, king

Which word below shares a common feature with all the words above?

line, sit, take, hope, night

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26. Identify two words (one from each set of brackets) that have a connection (analogy) with the words in capitals and relate to them in the same way.

SEA (wet, swimmer, ship)

SNOW (mountain, ice, skier)

27. Which word meaning LOCALITY becomes a word meaning TEMPO when a letter is removed?

28. Alf has four times as many as Jim, and Jim has three times as many as Sid. Altogether they have 192. How many has each?

29. Which is the only one of the following that is not an anagram of a word meaning *out of this world*?

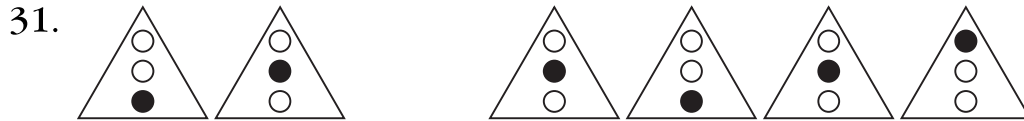
flow under

sexed Utah

enviable blue

icier blend

30. A man has 53 socks in his drawer: 21 identical blue, 15 identical black and 17 identical red. The lights are fused and he is completely in the dark. How many socks must he take out to make 100 per cent certain he has a pair of black socks?



Draw the missing figure in the above sequence.

32. How many minutes is it before 12 noon if nine minutes ago it was twice as many minutes past 10 a.m.?

33. Which two words are closest in meaning?

conclave, medley, theme, conglomeration, dissertation, augury

34. broke rage prose cute dared ?

Which word is missing?

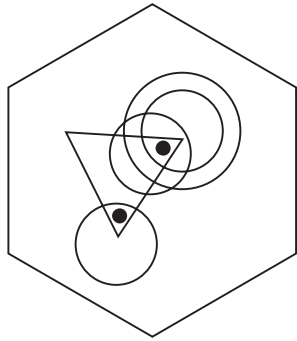
palm hymn evil snow take

35. Find *five* consecutive numbers below that total 22.

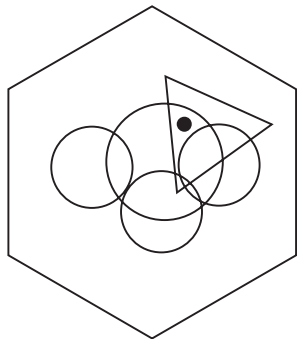
7 3 9 6 4 1 3 7 9 3 5 4 1 7 6 5

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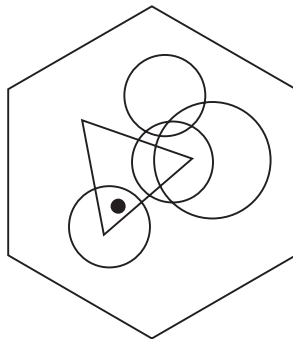
36.



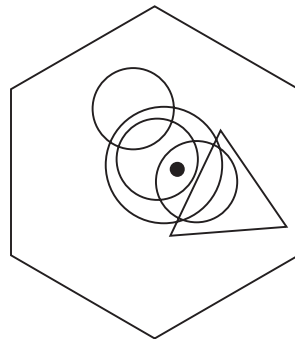
To which hexagon below can a dot be added so that both dots then meet the same conditions as the two dots in the hexagon above?



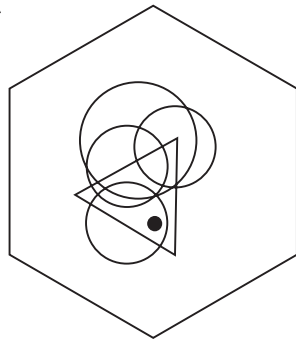
A



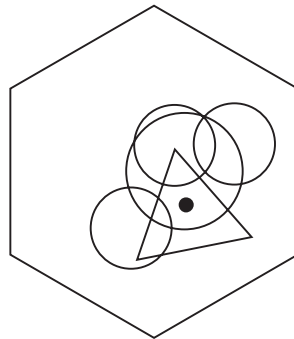
B



C

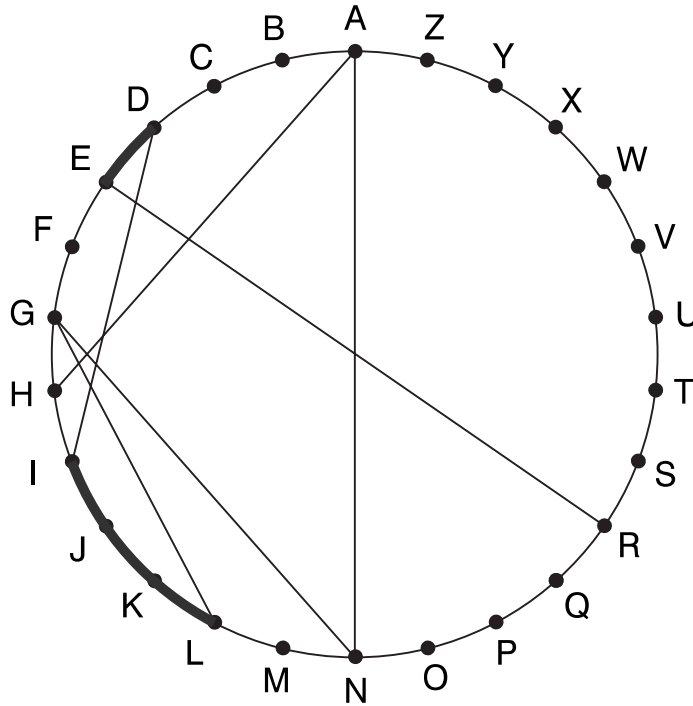


D



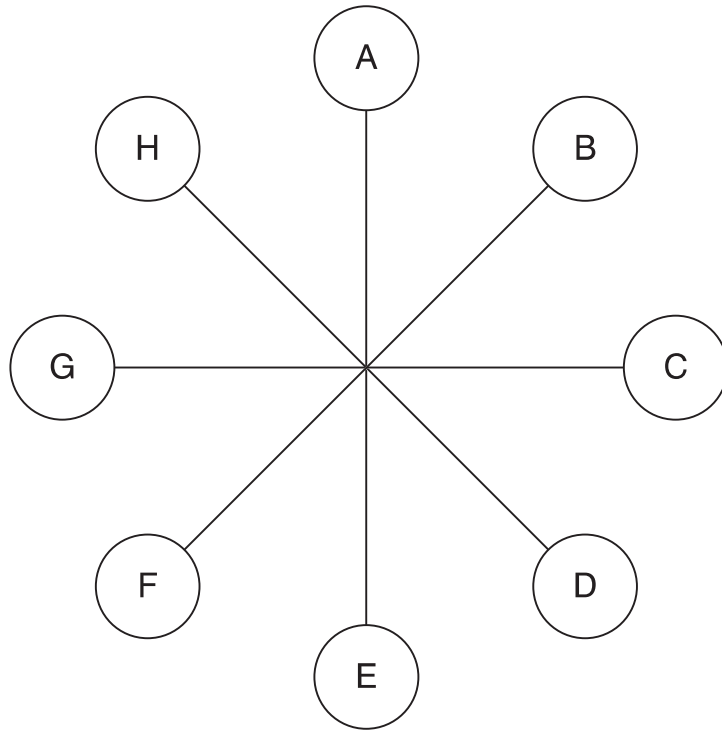
E

37. Find two words (4, 6) in this diagram. Letters are traced across the circle by chords. If the next letter is four letters or less away it will be found by tracing around the circumference. Clue: free flight.



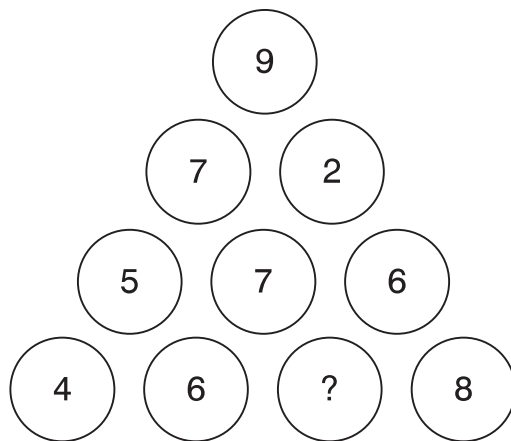
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38.



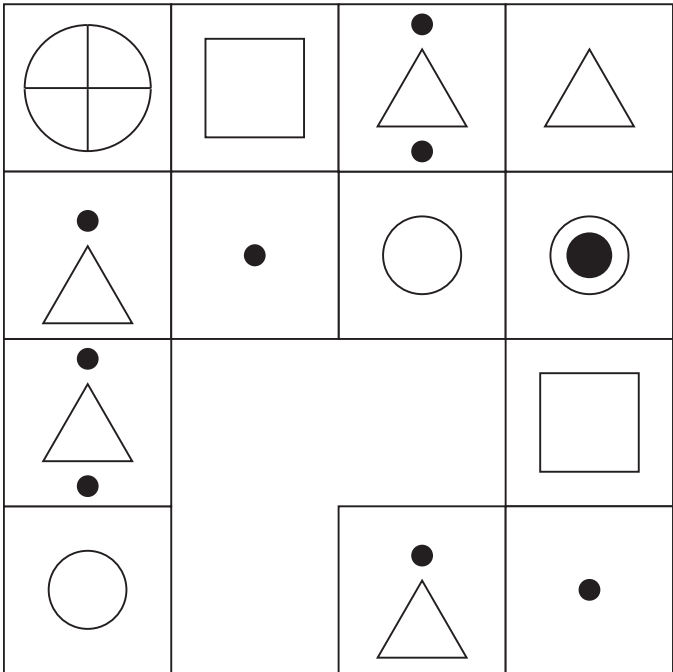
What letter is directly opposite the letter that is two letters away clockwise from the letter that is directly opposite the letter E?

39.

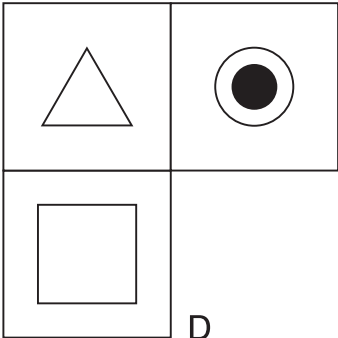
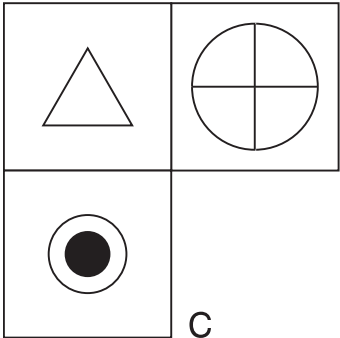
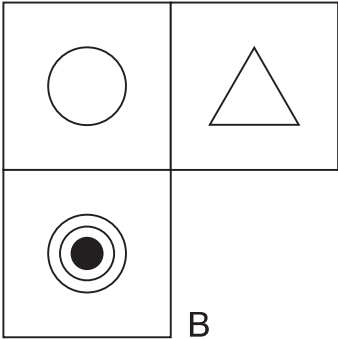
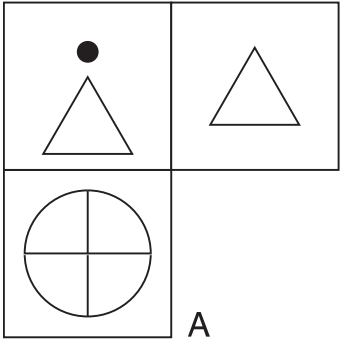


What number should replace the question mark?

40.

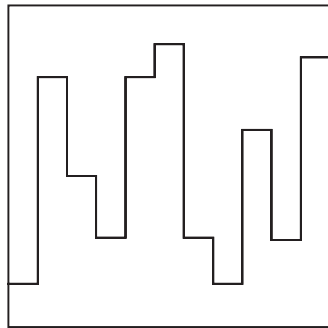


Which is the missing section?



# Test One: Answers

1. B



2. allow

3. 20: add 1, 1, 2, 2, 3, 3, 4, 4

4. 3527: in the others the sum of the first two numbers is equal to the sum of the second two numbers, for example  $5+2 = 6+1$

5. pressure

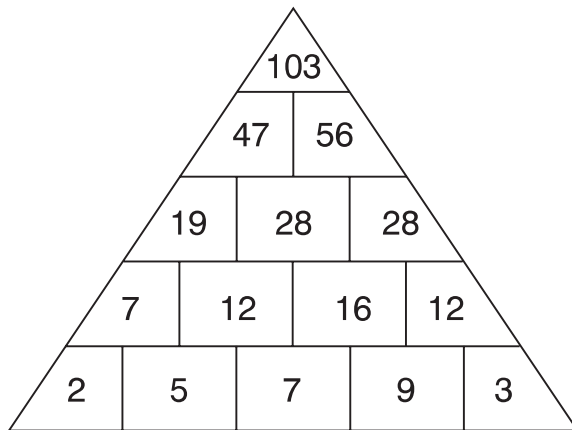
6. D: lines across proceed +1, +2, +3. Lines down proceed +3, +2, +1.



7. C: in all the others the black circle is connected to three white circles. In C it is only connected to two white circles.

8. weight, speed

9.



10. B: the rest are the same figure rotated

11. 44 minutes

$$12 \text{ noon less } 44 \text{ minutes} = 11.16$$

$$11.16 \text{ less } 48 \text{ minutes} = 10.28$$

$$9 \text{ a.m. plus } 88 \text{ minutes } (44 \times 2) = 10.28$$

12. SHIVER, EROTIC, ICICLE, LENGTH, THRASH

13. cube: it is a three-dimensional figure. The rest are all two-dimensional figures.

14. Switch A is faulty.

15. B: in each line and column, each of the three rings is shaded black once

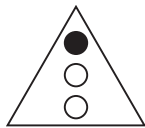
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16. impact
17. WIN BOAR = rainbow. The foods are spaghetti (PAST EIGHT), macaroni (I CAN ROAM), pancake (CAN PEAK) and chocolate (COOL CHEAT).
18. 4: looking across at the three circles, the number in the middle is the product of the two numbers in the same segment in the other two circles. Thus,  $3 \times 2 = 6$ ,  $7 \times 3 = 21$  and  $4 \times 4 = 16$ .
19. PROFESSIONAL
20. 11
21. D: in each line across and down the arrows point in each of three directions left, right and down. The number of arrows increases 1, 2, 3 in each row.
22.  $5\frac{1}{16}$ : there are two alternate sequences:  $-1\frac{1}{4}$  and  $+1\frac{1}{4}$
23. linguist, polyglot
24. 888, 890: the sequence progresses  $\times 3$ ,  $+2$
25. take: all words can be prefixed with PAR to form another word – parable, parrot, parson, parking, partake
26. swimmer, skier
27. place/pace
28. Alf 144, Jim 36, Sid 12

29. sexed Utah = exhausted. The words meaning out of this world are: wonderful (flow under), unbelievable (enviable blue), incredible (icier blend).

30. 40 socks. If he takes out 38 socks, although it is very unlikely, it is possible they could all be blue and red. To make 100 per cent certain that he also has a pair of black socks he must take out a further two socks.

31.



The black dot is moving up (then down) by one position at each stage.

32. 37 minutes: 12 noon less 37 minutes = 11.23. 11.23 less nine minutes = 11.14. 10 a.m. plus 74 minutes ( $2 \times 37$ ) = 11.14.

33. medley, conglomeration

34. evil: when joined together each pair of words forms another word – brokerage, prosecute, daredevil

35. 93541

36. D: so that one dot appears in the triangle and one circle; and the other dot appears in the triangle and three circles

37. HANG GLIDER

38. G

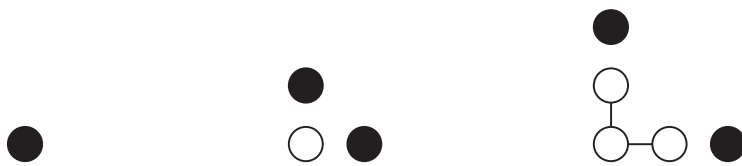
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39. 0: looking at lines of numbers from the top:  $9 \times 8 = 72$ ;  
 $72 \times 8 = 576$ ;  $576 \times 8 = 4608$

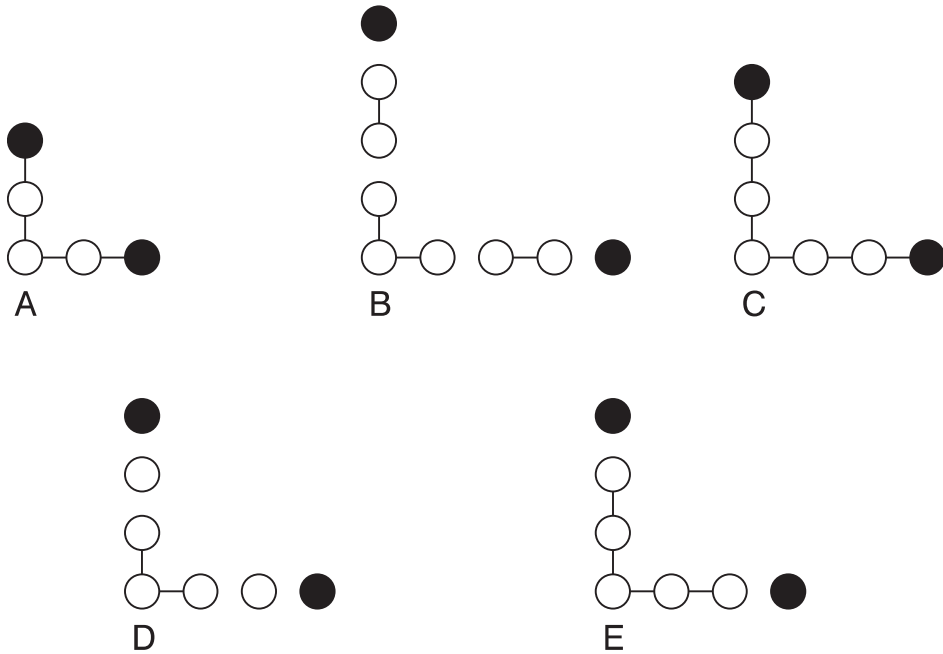
40. C: each opposite corner block of four squares are identical

# Test Two: Questions

1.



What comes next?



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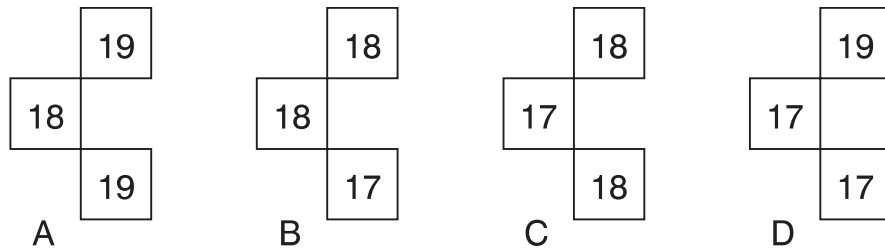
2. Which four-letter word, when placed in the brackets, will complete a word on the left and start another word on the right?

RAM (\*\*\*) RIDGE

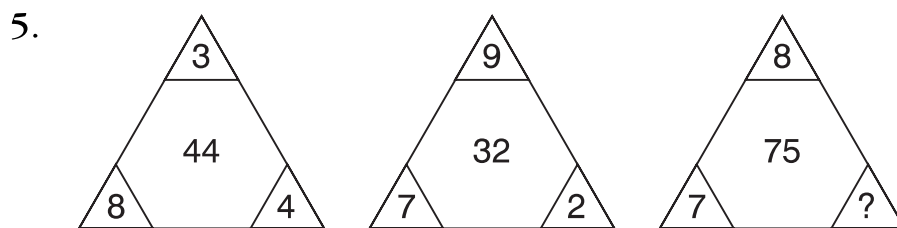
3.

20	22	19	21
17	19	16	?
19	21	?	20
16	18	15	?

Which is the missing section?



4. ligno- is to wood as vitro- is to wool, glass, stone, water, paper?



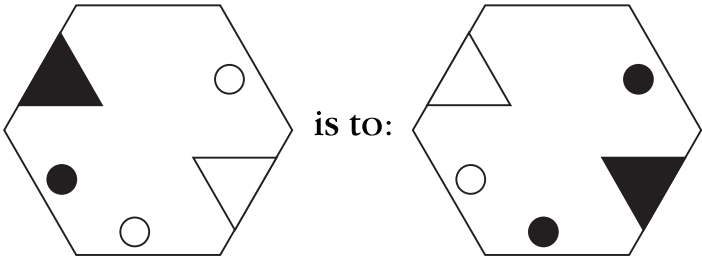
What number should replace the question mark?

6. Solve the anagrams to find a well-known saying. The number of letters in each word is shown.

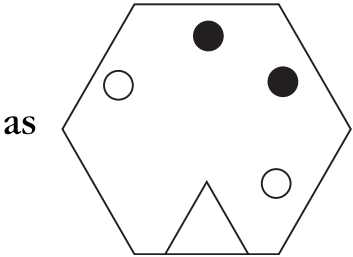
(\*\*\*\* \* \*\*\*\*\*)(\*\*\*\* \*\*\*\*\*)

(asserting craft)(hint of antic)

7.

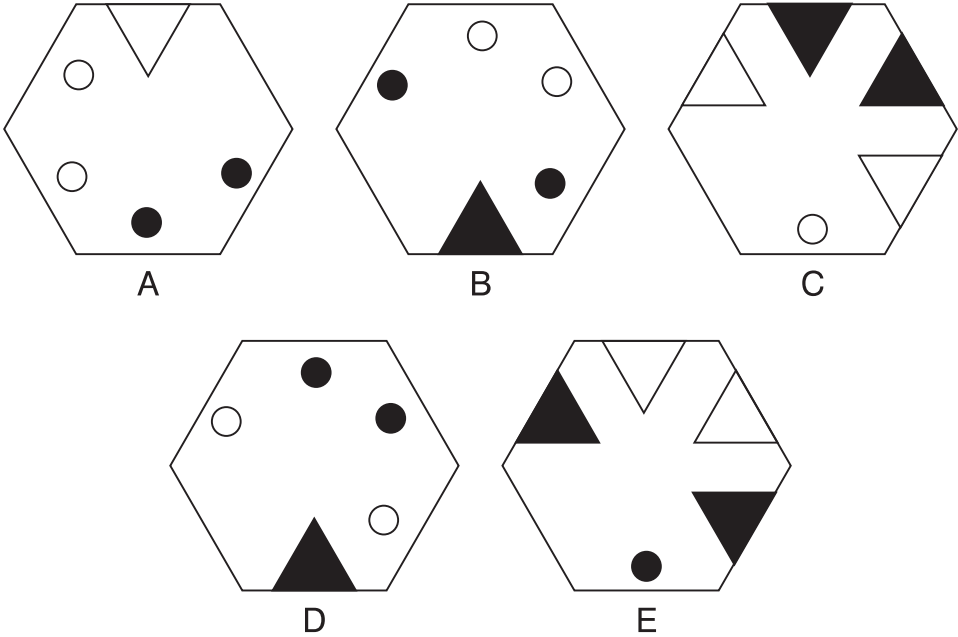


is to:



as

is to:



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8. 0, 4, 2, 6, 3, 7, 3.5, ?

What number should replace the question mark?

9. Identify two words (one from each set of brackets) that have a connection (analogy) with the words in capitals and relate to them in the same way

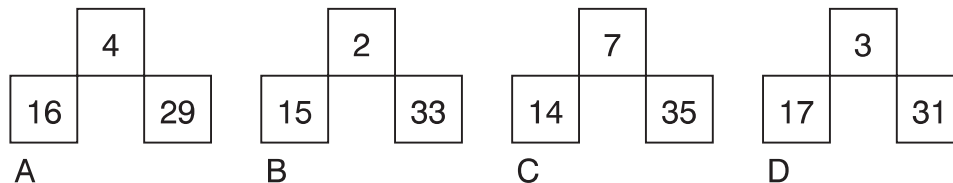
LONGITUDE (degree, tropics, meridian)

LATITUDE (parallel, line, equinox)

10.

5	2	3	10
6	4	1	11
1	9	?	12
12	?	6	?

Which is the missing section?



11. Which word in brackets is closest in meaning to the word in capitals?

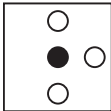
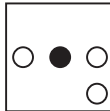
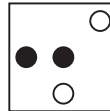
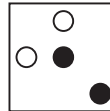
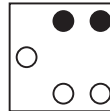
MONITOR (observe, order, meddle, intrude, conclude)



12.

○ ○ ● ○ 1 ● ○	○ ● 2 ○	○ ● ● ○ ● ○ 3 ●
○ ○ ● ○ ● 4 ●	○ ○ ● ○ ○ ○ 5 ●	● ○ ● ○ 6
● ○ ● ○ 7 ●	○ ● ● ○ ● ○ 8 ● ○	○ ● ●

Looking at lines across and down, if the first two tiles are combined to produce the third tile, with the exception that like symbols are cancelled out, which of the above tiles is incorrect, and with which of the tiles below should it be replaced?

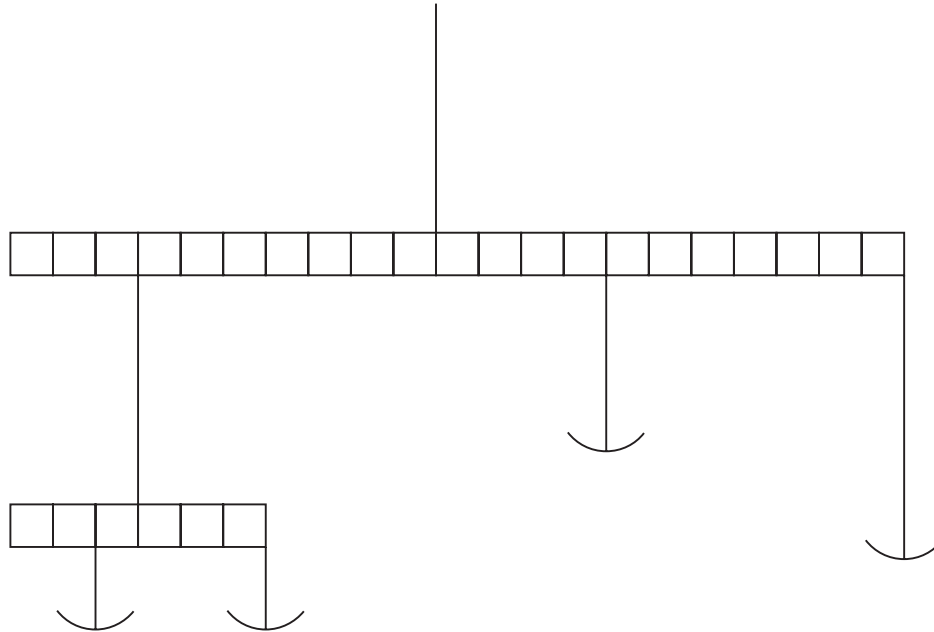
				
A	B	C	D	E

13. Which two words are most opposite in meaning?

liberty, frivolity, chastity, sobriety, irrationality, polarity

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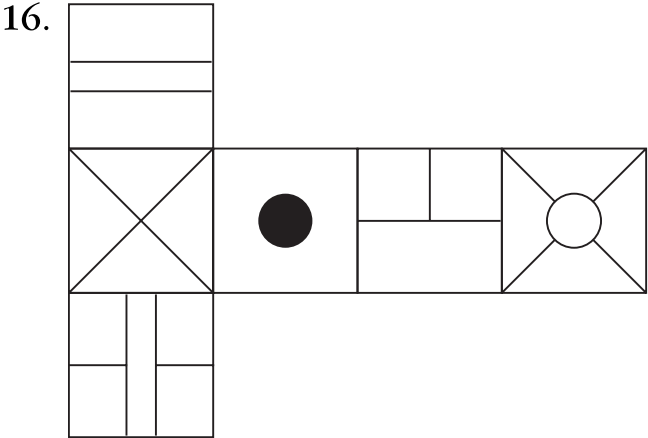
14.



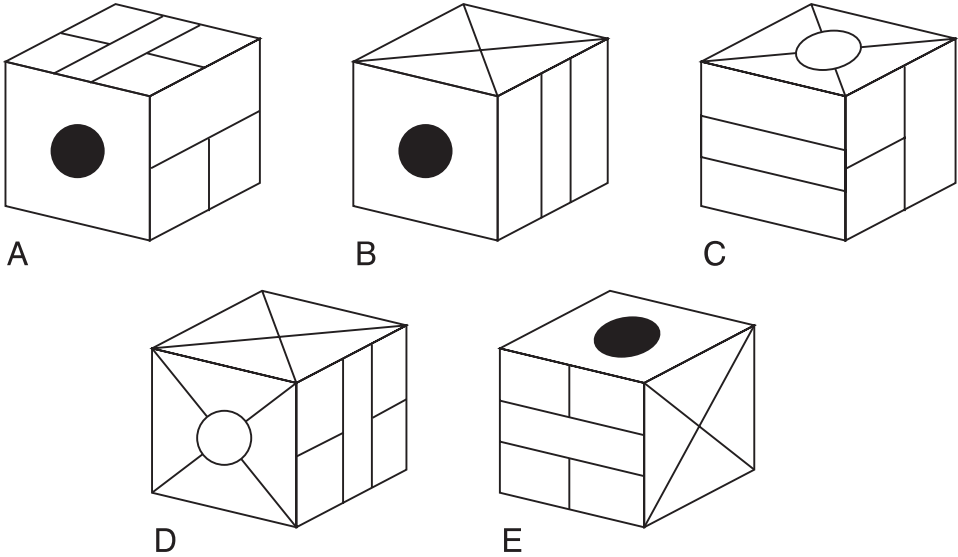
Insert four weights of 2 units, 3 units, 4 units and 6 units respectively so that the scales balance perfectly.

15. The following clue leads to which pair of rhyming words?

measure bulk of grass fodder



When the above is folded to form a cube, which is the only one of the following that *can* be produced?



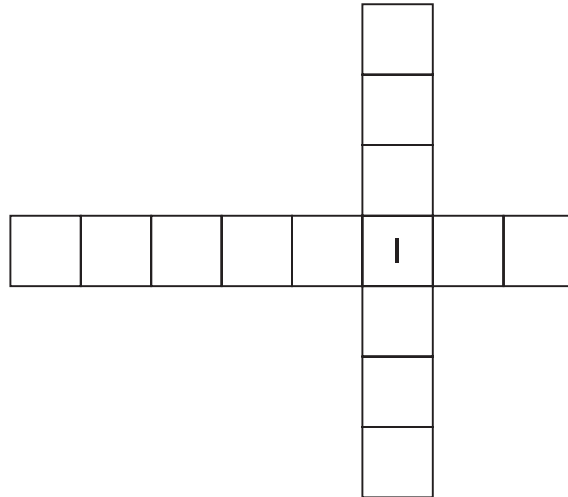
17. Which is the odd one out?

femur, mandible, fibula, tibia, patella

18. My watch was correct at noon, after which it started to lose 17 minutes per hour until six hours ago it stopped completely. It now shows the time as 2.52 p.m. What time is it now?

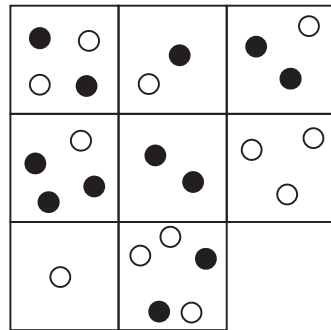
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19.

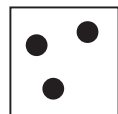


Insert all the letters of the phrase UNSPOILT LOCAL into the remaining blank spaces once each only, to produce two words that form a phrase. Clue: things are not always what they appear.

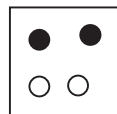
20.



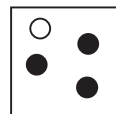
Which is the missing tile?



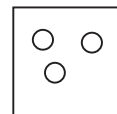
A



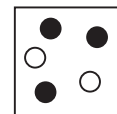
B



C



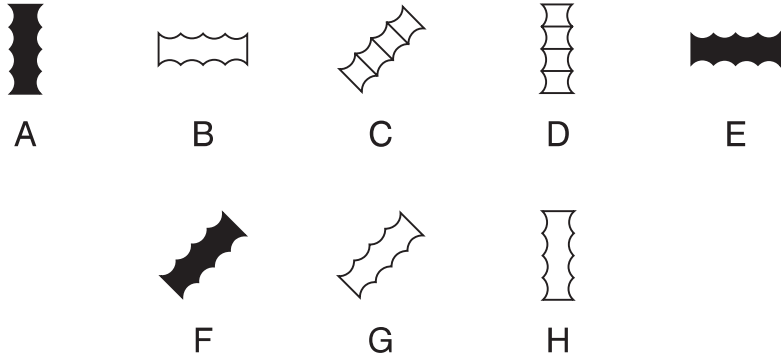
D



E



What comes next?



22. dopiness, uncloaking, dishwasher

Which word below has a feature in common with all the words above?

gallant, crossfire, whirlwind, assault

23. 1, 101, 15, 4, 29, -93, 43, -190, ?

What number should replace the question mark?

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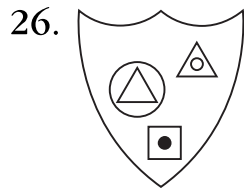
24.

A	B	C	D	E	
F	G	H	I	J	
K	L	M	N	O	
P	Q	R	S	T	
U	V	W	X	Y	Z

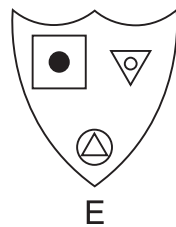
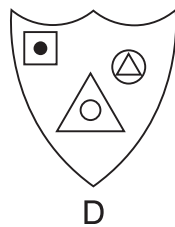
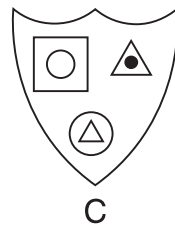
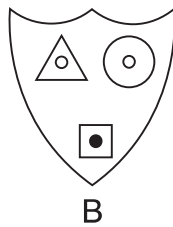
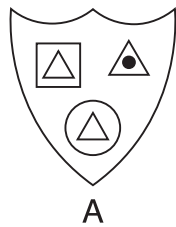
What letter is two letters above the letter two letters to the left of the letter immediately above the letter three letters to the right of the letter Q?

25. 15, 5, 8, 24, 21, 7, 10, 30, ?, ?, ?, 36, 33

What three numbers are missing?



Which shield below has most in common with the shield above?



27. Using the four letters below only, create a seven-letter word.

UMNI

28.

5	
8	5
1	7

4	
7	6
1	9

?	
9	1
1	3

What number should replace the question mark?

29. Switch A turns lights 1 and 2 on/off or off/on  
 Switch B turns lights 2 and 4 on/off or off/on  
 Switch C turns lights 1 and 3 on/off or off/on  
 Switch D turns lights 3 and 4 on/off or off/on

● = ON

○ = OFF

Switches D, C, A and B are thrown in turn with the result that Figure 1 turns into Figure 2. Which switch does not work at all?

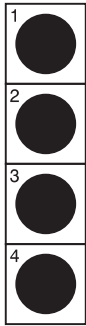


Figure 1

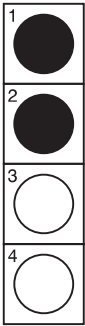


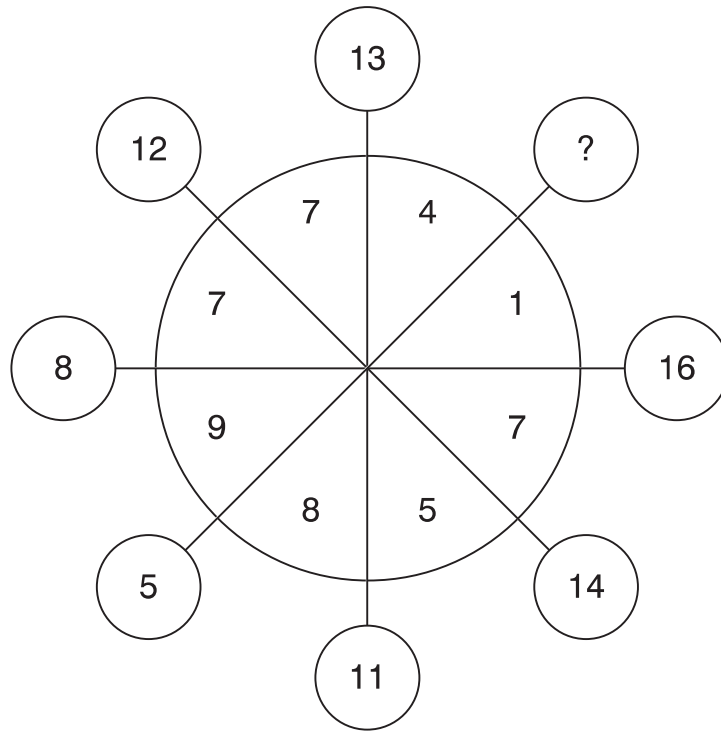
Figure 2

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30. Which word in brackets is closest in meaning to the word in capitals?

FUSE (muzzle, explode, coalesce, immobilise, tighten)

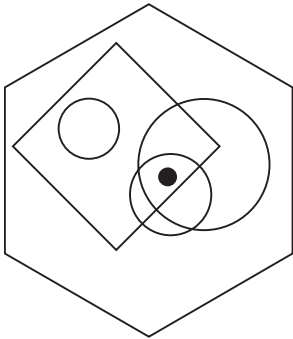
31.



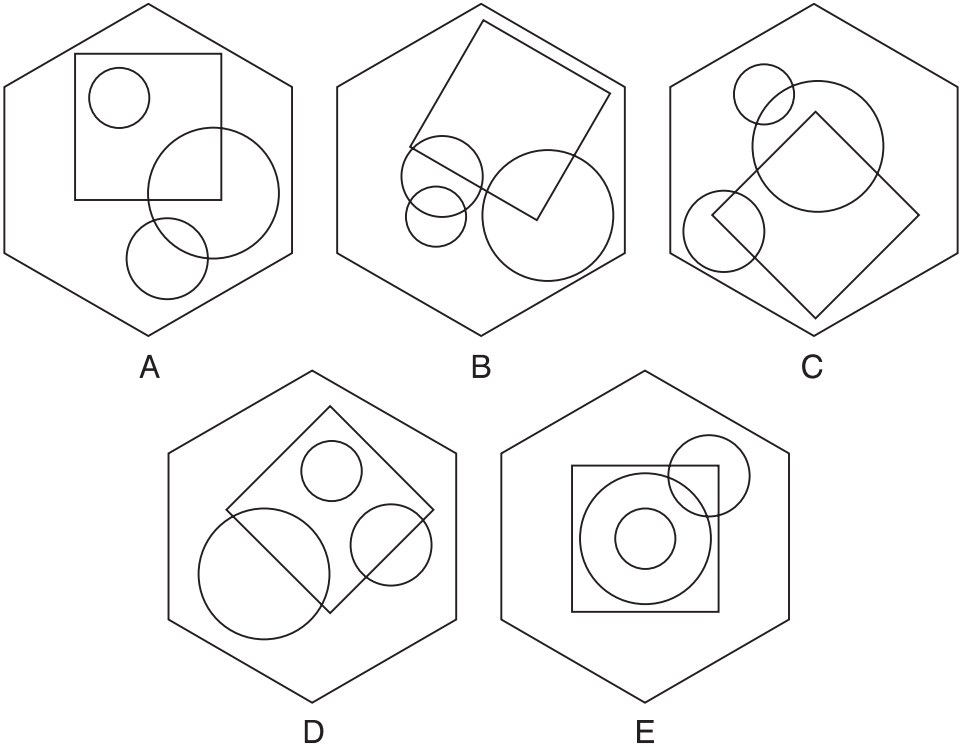
What number should replace the question mark?



32.



To which hexagon below can a dot be added so that it then meets the same conditions as in the hexagon above?




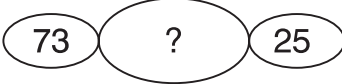
33. You have 59 cubic blocks. What is the minimum number that needs to be taken away in order to construct a solid cube with none left over?

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34. What word meaning DEDUCE becomes a word meaning PROPEL when a letter is removed?

35. 



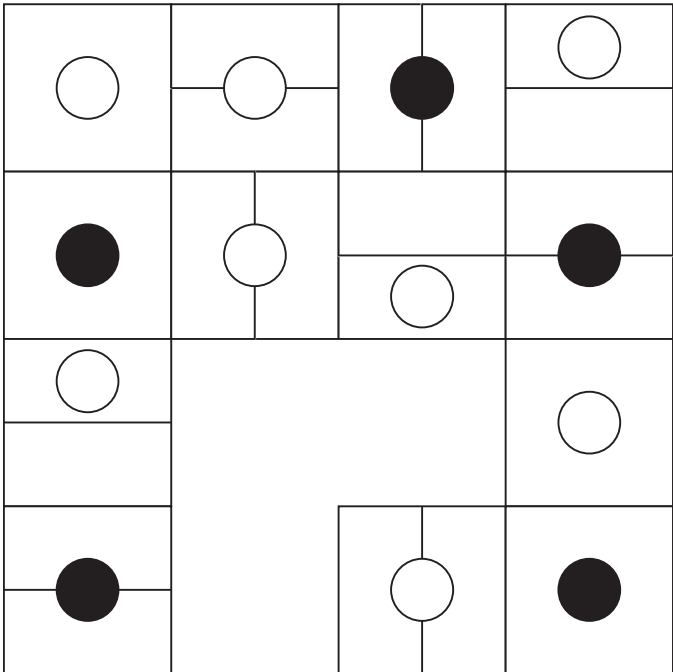


What number should replace the question mark?

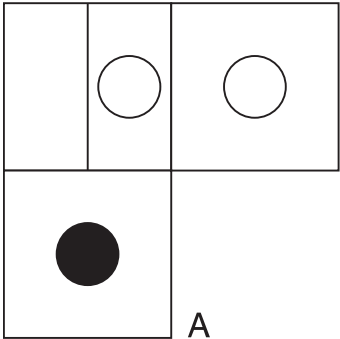
36. What is the longest word in the English language that can be produced out of the set of letters below? Letters may only be used once in the word so produced.

FEUMOPXCTW

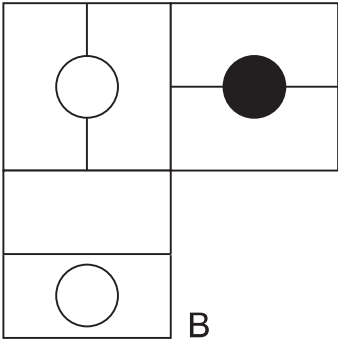
37.



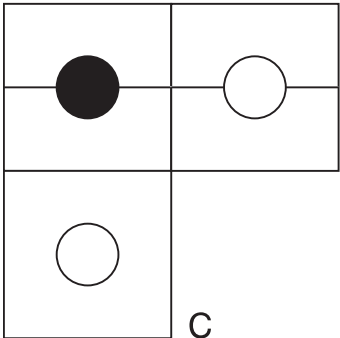
Which is the missing section?



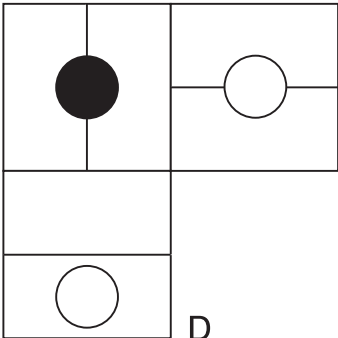
A



B



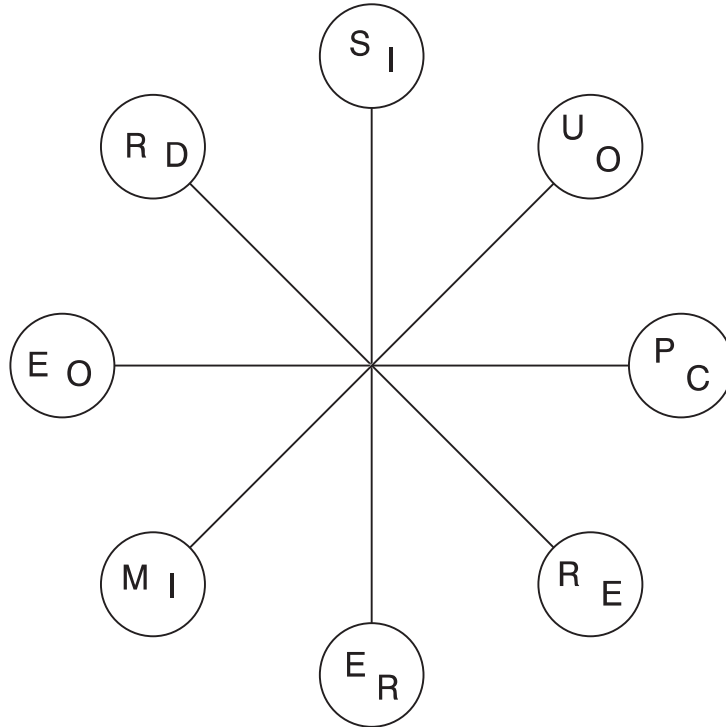
C



D

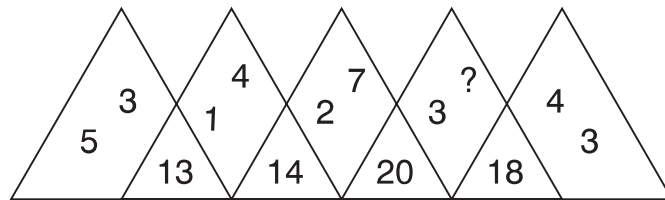
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38.



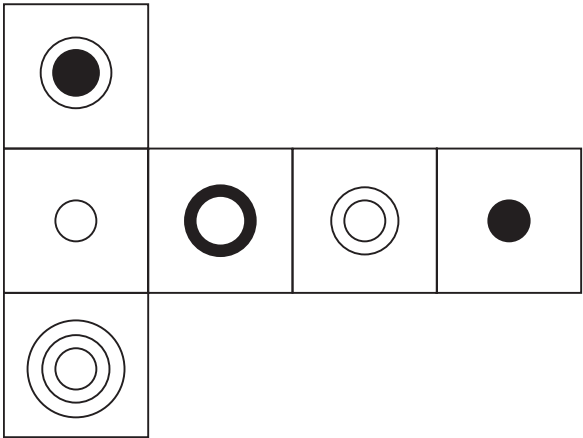
Work clockwise round the circles to spell out two eight-letter words that are antonyms. Each word commences in a different circle, and you must find the starting point of each. Every letter is used once each and all letters are consecutive.

39.

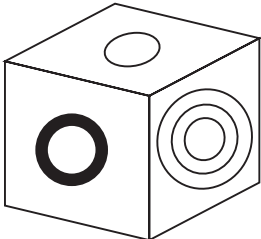


What number should replace the question mark?

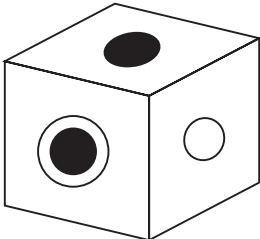
40.



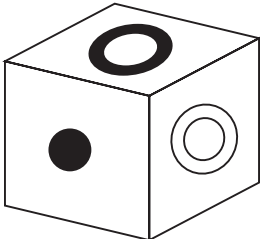
When the above is folded to form a cube, which is the only one of the following that *can* be produced?



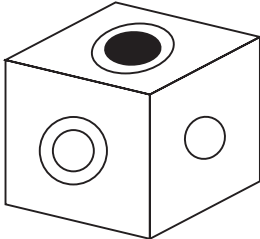
A



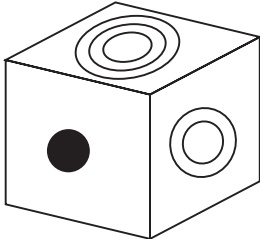
B



C



D



E