30.



The white dot moves corner/side/corner anti-clockwise and the black dot does the same clockwise.

- 31. elicit: the following word begins with the last two letters of the previous word reversed
- 32. pentagon
- 33. 9
- 34. A: looking across the squares, the top left corner alternates one line/two lines/ three lines; the top right corner alternates line right vertical/line left vertical; the bottom left corner alternates top horizontal/bottom horizontal and the bottom right corner alternates diagonal between opposite corners
- 35. 5/8 or 0.625 or 62.5 per cent
- 36. F
- 37. HIBERNATE
- 38. 1: work backwards from 120; that is, 120 60 12 3 1
- 39. D: all lines are continued, however, wavy lines become straight and vice versa
- 40. 52: start at the top left corner and work along the top line, then back along the second line, etc, adding nine then deducting three

# **Test Five: Questions**

### 1. Which is the odd one out?

**Test Five: Questions** 

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

REVERENT (candid, lucid, cheeky, content, culpable)

3. 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.

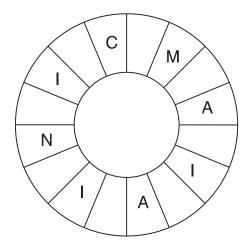
COCHLEA (shell, ear, brain)

CEREBELLUM (heart, nose, brain)

4. Which number is the odd one out?

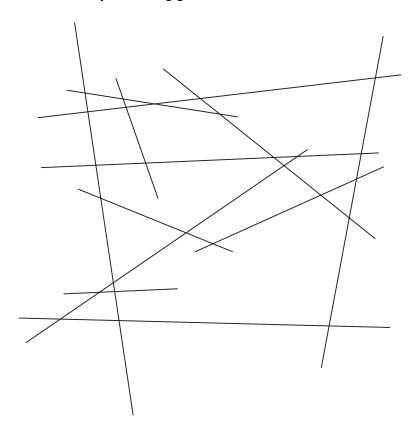
3647 2536 5869 6957 1425 4758

5.



Read clockwise to find a 16-letter word. Only alternate letters have been shown, and you have to find the starting point.

6. How many lines appear below?



7. 0, 1, 2, 5, 20, 25, ?, ?

What two numbers should replace the question marks?

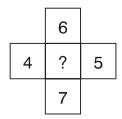
8. Which is the odd one out?

exacerbate, alleviate, amplify, escalate, inflate

**Test Five: Questions** 

9.

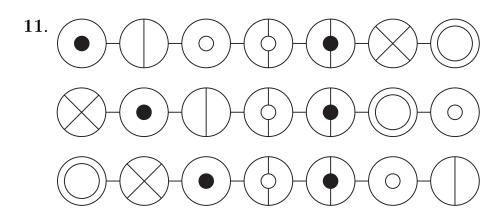
	9		_		8	
5	6	6		2	8	1
	8				3	



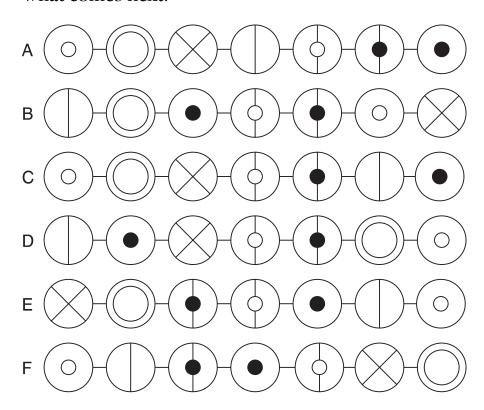
What number should replace the question mark?

10. The name of which creature can be placed on the bottom row to complete seven three-letter words reading downwards?

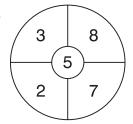
$$D \ A \ S \ A \ M \ Y \ W$$



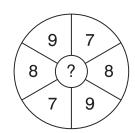
### What comes next?



12.



6 4 7 6 8 5



What number should replace the question mark?

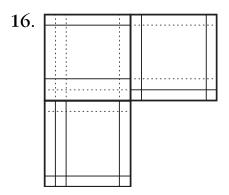
13.

	N	Е
Α	М	Т
М		I

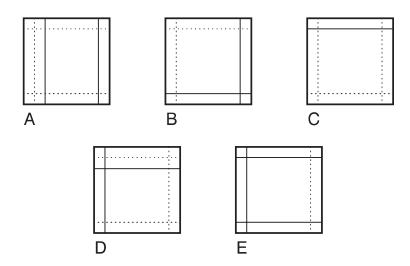
Start at one of the four corner letters and spiral clockwise round the perimeter, finishing at the centre letter to spell out a nine-letter word. You must provide the missing letters.

- 14. In eight years time the combined age of me and my two sons will be 124. What will it be in five years time?
- 15. Which two words are closest in meaning?

old, stiff, ripe, pure, uniform, mellow

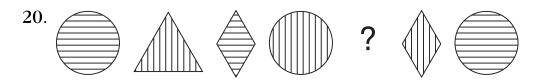


Which is the missing tile?



- 17. abyss is to chasm as fissure is to: crevice, recess, gorge, canyon, opening
- 18. Jack is twice as old as Jill, but in five years time he will only be one and a half times as old. How old are Jack and Jill now?
- 19. Change one letter only in each of the words below to produce a familiar phrase:

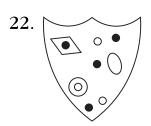
**HOME SO LINE** 



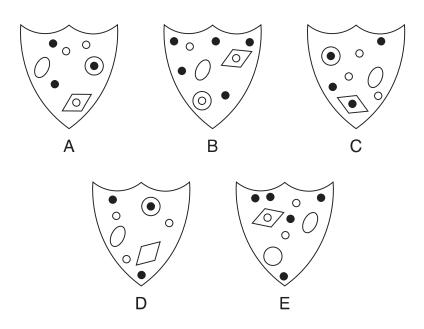
Draw the missing figure in the above sequence.

21. 1000, 865, ?, 595, 460, 325

What number should replace the question mark?



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



23. Identify two words that sound alike, but are spelled differently, which mean:

potency small insect

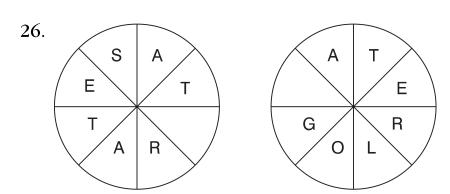
**24**. [

14	26	28
91	18	89
57	177	22
189	16	7

Multiply the lowest even number in the grid by the highest odd number.

25. What is the meaning of laconic?

dull, uninspiring tearful using few words emotionally unstable sarcastic



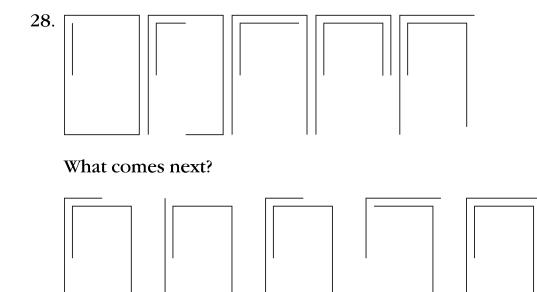
Work clockwise round each circle to spell out two eightletter words that are synonymous. You have to find the starting points and provide the missing letters.

27. 17, 4, 29, 13, 41, 22, 53, 31, ?

В

Α

What number should replace the question mark?



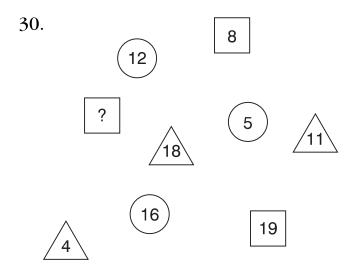
C

D

Ε

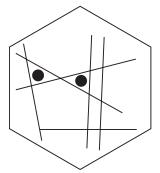
29. T I E M T N O

Spiral clockwise round the perimeter and finish at the centre square to spell out a nine-letter word. You must find the starting point and provide the missing letters.

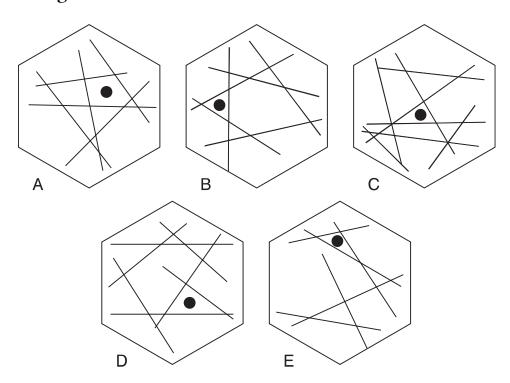


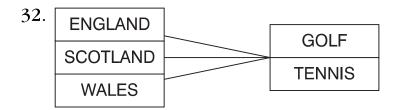
What number should replace the question mark?





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?





Three teams, from England, Scotland and Wales, are competing for two trophies, one for golf and one for tennis. How many different outcomes of the two competitions exist?

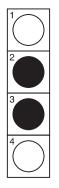
6, 8, 9, or 12?

#### 33. Which is the odd one out?

statement, fluster, retirement, restful, testament

34. 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

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



2 3 4

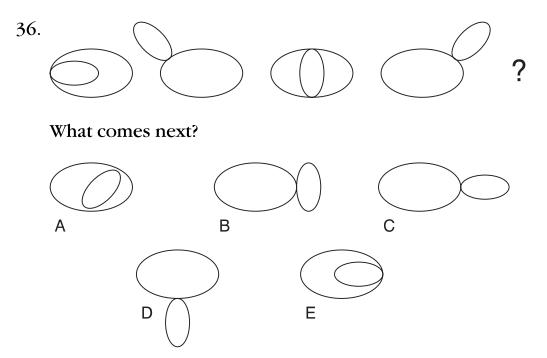
Figure 1

Figure 2

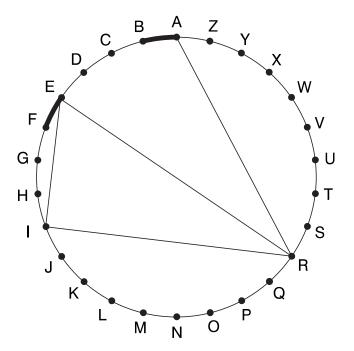
35.

5	7	4	3	1
1	2	2	6	5
6	6	5	?	
1	2			•

What number should replace the question mark?



37. Find two words (7, 4) 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: may be difficult to swim over.



38.

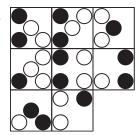
Α	В	С	D	Е	
F	G	Н	—	っ	
K	L	М	Z	0	
Р	Q	R	S	Т	
U	٧	W	X	Υ	Z

What letter is immediately to the left of the letter that is immediately below the letter two to the left of the letter I?

39. Which number is the odd one out?

3861 8712 5247 4356 1485 3645

**40**.



Which is the missing tile?

















### **Test Five: Answers**

- 1. C: it has three white and one black on the left and three black and one white on the right. The rest are the opposite way round.
- 2. cheeky
- 3. ear, brain
- 4. 6957: all the rest progress +3, -2, +3
- 5. CIRCUMNAVIGATION
- 6. 12
- 7. 150, 157: the sequence progresses +1,  $\times 2$ , +3,  $\times 4$ , +5,  $\times 6$ , +7
- 8. alleviate: it means to lessen, the rest meaning to increase
- 9. 4: (6+7) (4+5)
- 10. OCTOPUS: to produce DUO, ARC, SAT, AGO, MAP, YOU, WAS

- 11. C: at each stage the third circle moves to the end and the sixth circle moves to the beginning
- 12. 8: the number in the middle is the average of the numbers round the outside. So, 7 + 8 + 9 + 7 + 8 + 9 = 48, and  $48 \div 6 = 8$
- 13. MAGNETISM
- 14. 109: in five years we will each be three years younger than in eight years,  $5 \times 3 = 15$ , and 124 15 = 109
- 15. ripe, mellow
- 16. C: all lines carry on and change from dotted to unbroken, and vice versa
- 17. crevice
- 18. Jack 10 and Jill 5
- 19. COME TO LIFE
- 20.



The sequence progresses circle, triangle, diamond, with alternate horizontal/vertical lines.

- 21. 730: deduct 135 each time
- 22. C: it contains four black dots and three white

- 23. might/mite
- 24.  $2646 (14 \times 189)$
- 25. using few words
- 26. SATURATE, WATERLOG
- 27. 65: there are two alternate sequences: +12 and +9
- 28. C: the large rectangle is being dismantled, half a side at a time anti-clockwise; the small rectangle is being constructed half a side at a time clockwise
- 29. TESTIMONY
- 30. 6: so that the numbers in the triangles, squares and circles add up to 33
- 31. C: so that one dot appears in one triangle and the other dot appears in two triangles (in the example the right-hand side forms a small triangle and a larger triangle and the dot is in both)

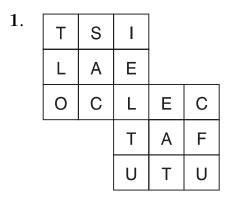
**Test Five: Answers** 

#### 32. 9: the alternatives are:

England win both golf and tennis
Scotland win both golf and tennis
Wales win both golf and tennis
England win golf, Scotland win tennis
Scotland win golf, England win tennis
England win golf, Wales win tennis
Wales win golf, England win tennis
Scotland win golf, Wales win tennis
Wales win golf, Scotland win tennis

- 33. retirement: statement/testament and fluster/restful are anagram pairs
- 34. Switch A is faulty.
- 35. 2: so that each square block of four numbers totals 15
- 36. E: the small ellipse moves 45° clockwise and alternates inside/outside of the larger ellipse
- 37. BARRIER REEF
- 38. K
- 39. 3645: in all the others the number formed by the first two digits added to the number formed by the second two digits equals 99
- 40. B: looking across and down, only dots that appear in the same position in the first two squares are carried forward to the third square, however, they then change from black to white and vice versa

## **Test Six: Questions**



Each square contains the letters of a nine-letter word. Find the two words that are similar in meaning.

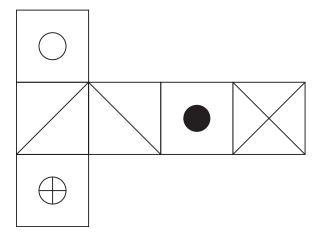
2. 1, 3, 4, 7, 11, 18, 29, ?

What number should replace the question mark?

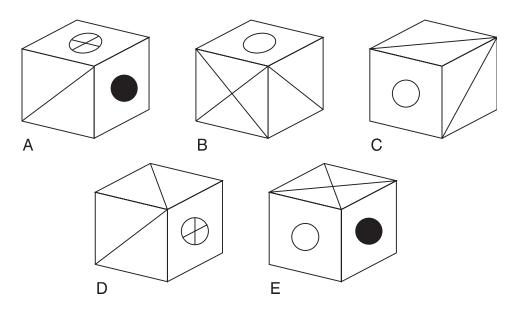
3. Which four bits can be joined together to form two words that have opposite meanings?

ant, ert, uce, ire, ill, and, red, tic, exp



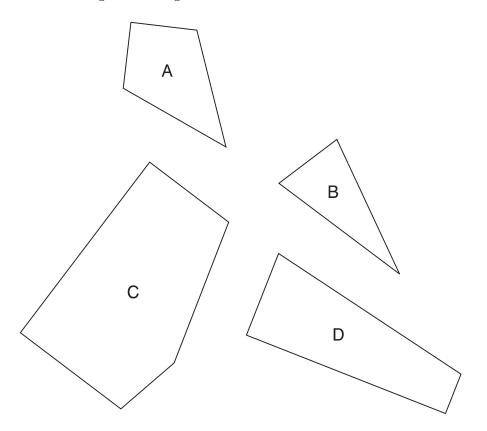


When the above is folded to form a cube, which is the only one of the following that *can* be produced?



- 5. blanch is to boil as sauté is to: simmer, fry, soak, roast, garnish
- 6. In a game of eight players lasting for 70 minutes, six substitutes alternate with each player. This means that all players, including the substitutes, are on the pitch for the same length of time. For how long?

- 7. If 2 = H are BTO is two heads are better than one, what is the meaning of 2 = S to ES?
- 8. Which three of the four pieces below can be fitted together to form a perfect square?

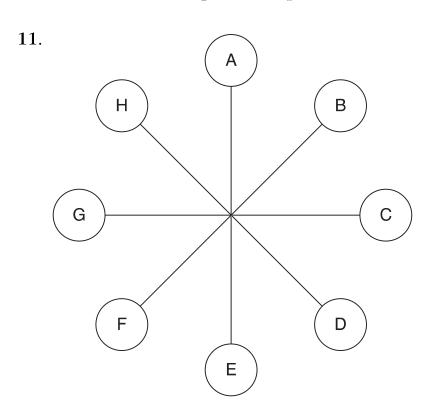


9. Which is the odd one out?

parabolic, lancet, abutment, trefoil, ogee

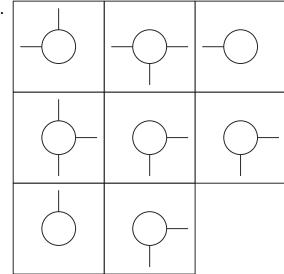
10.	8	3	4
	9	4	6
	12	2	?

Look at lines both across and down and work out what number should replace the question mark?

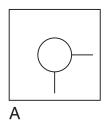


What letter is directly opposite the letter two places anticlockwise away from the letter directly opposite the letter H?

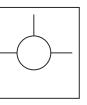
12.

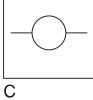


Which is the missing tile?



В

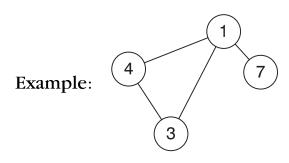




13. Change one letter only in each of the words below to produce a familiar phrase:

SO LID ON WANT

14. Insert the numbers 1–5 in the circles so that for any particular circle the sum of the numbers in the circles connected directly to it equals the value corresponding to the number in that circle as given in the list.

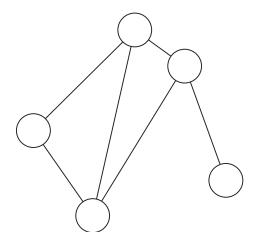


$$1 = 14 (4 + 3 + 7)$$

$$3 = 5 (4 + 1)$$

$$4 = 4 (1 + 3)$$

$$7 = 1$$

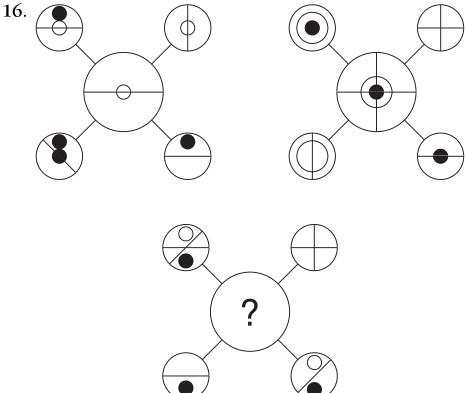


$$1 = 4$$
 $2 = 12$ 
 $3 = 7$ 
 $4 = 8$ 

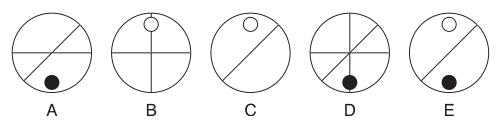
15.

	Α	
0	С	ı
Ν	Α	Р

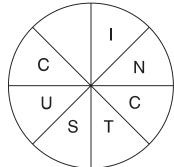
Start at one of the four corner letters and spiral clockwise round the perimeter, finishing at the centre letter to spell out a nine-letter word. You must provide the missing letters.

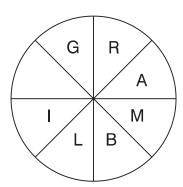


Which circle should replace the question mark?







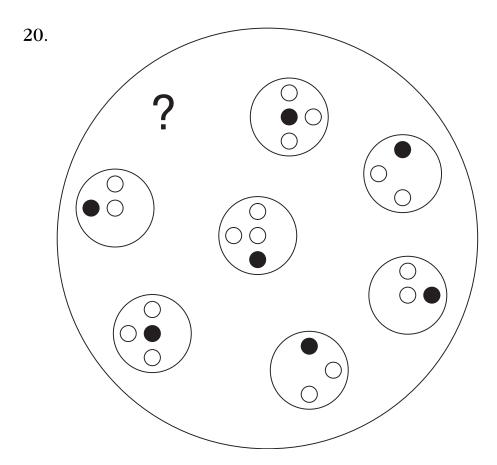


Find two eight-letter words reading clockwise in each circle. The words are antonyms. You have to find the starting point of each word, and provide the missing letter.

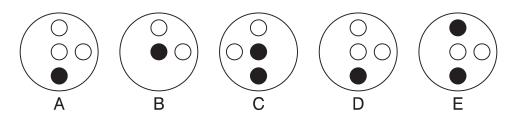
18. Which of the following is not an anagram of a type of building?

delta arch raiment cleats the Arctic a blowgun

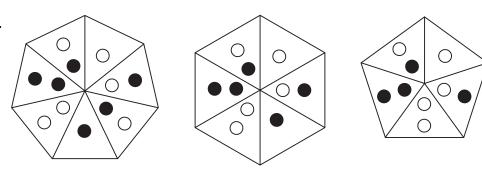
19. If five men can build a house in 16 days, how long will it take just two men to build the same house, assuming all men work at the same rate?



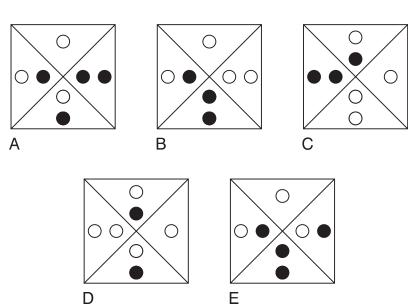
Which circle should replace the question mark?



21.



What comes next?



22. Change one letter only in each word to produce a familiar phrase:

cone do line

23. IQS: LNV JRM: ?

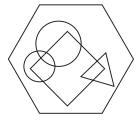
LOP, MOP, LIP, MOW or KIP?

24. 742 (8710) 138 395 (12167) 972 819 (?) 356

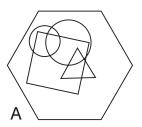
What number should replace the question mark?

25. FAIRER BEETLE is an anagram of which two words that are similar in meaning?

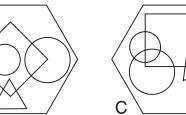


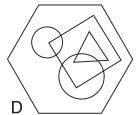


Which hexagon below has most in common with the hexagon above?











27. Identify two words that sound alike but are spelled differently, which mean:

regrets artifice

28. Simplify:

$$\frac{27}{74} \div \frac{9}{37} \times \frac{6}{17}$$

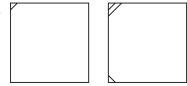
to the lowest fraction.

29.

<b>)</b> .	А	В	С	D	Е	
	F	G	Ι	_	7	
	K	┙	М	Z	0	
	Р	Q	R	S	Т	
	U	٧	W	X	Υ	Z

What letter is two letters to the right of the letter two letters above the letter four letters to the left of the letter Z?

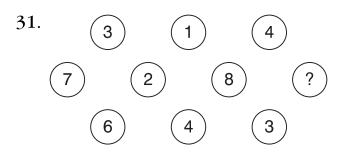
30.







Draw the missing figure in the above sequence.



What number should replace the question mark?

32. night long boat house?

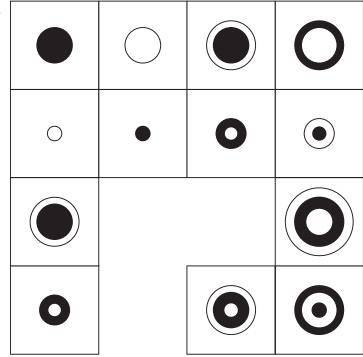
What comes next?

calm, hold, panic, wind, post

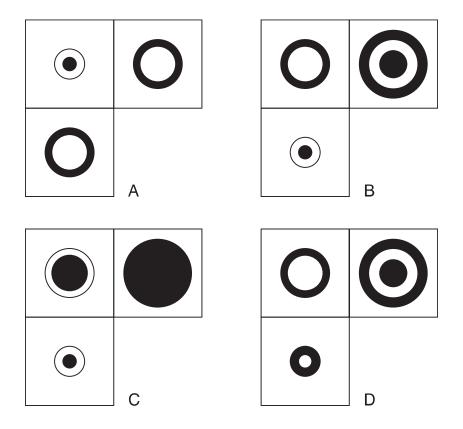
33. rifle is to firearm as cutlass is to: blade, sword, weapon, steel, sever

What number should replace the question mark?





Which is the missing section?



36. 742635819

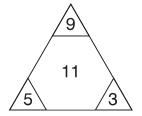
What is the difference between the average of the numbers above and the second lowest even number?

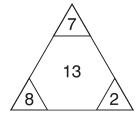
- 37. How much does a bag of flour weigh if it weighs 1 kilogram plus the weight of half the bag of flour?
- 38. Fill in the missing letters to find two types of tree:

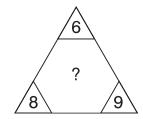
\*U\*A\*Y\*\*\*

\*A\*D\*L\*O\*\*

39.

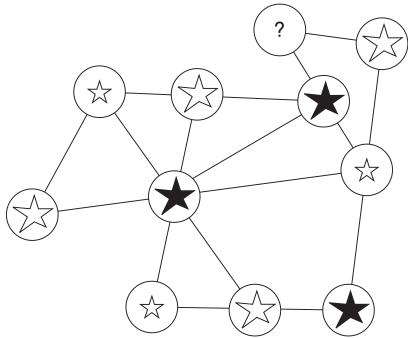






What number should replace the question mark?





Which is missing?







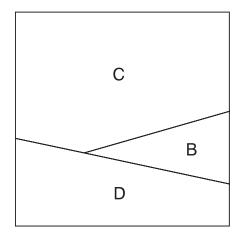
## **Test Six: Answers**

- 1. OSCILLATE, FLUCTUATE
- 2. 47: each number is the sum of the previous two numbers i.e. 18 + 29 = 47
- 3. expand, reduce
- 4. E
- 5. fry
- 6. 40 minutes:  $(70 \times 8) \div 14$

Total time for eight players =  $70 \times 8 = 560$  minutes. However, as 14 people are each on the pitch for an equal length of time, they are each on the pitch for 40 minutes  $(560 \div 14)$ .

7. two sides to every story

8.

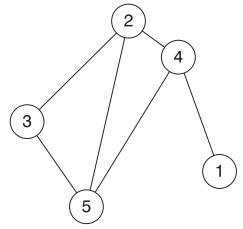


- 9. abutment: it is part of a structure, the rest are specific types of arch
- 10. 4: in each row and column in order to arrive at the final number multiply the first two numbers together and divide by 6

#### 11. F

- 12. D: looking both across and down, only lines that appear in both the first two squares are carried forward to the third square
- 13. TO LIE IN WAIT

14.



#### 15. PANORAMIC

- 16. C: only lines and symbols that appear just twice in the outer circles appear in the inner circle
- 17. SUCCINCT, RAMBLING
- 18. the Arctic = architect

The buildings are: cathedral (delta arch) minaret (raiment) castle (cleats) bungalow (a blowgun)

- 19. 40 days: five men take  $5 \times 16 = 80$  man days to build the house. Two men will, therefore, take 40 days to build the house  $(80 \div 2)$ .
- 20. A: each pair of circles are mirror images of each other

- 21. E: the number of sides reduces by one at each stage, and the section two clockwise from the single white dot disappears
- 22. come to life
- 23. MOP

24. 
$$11615: 8 + 3 = 11; 1 + 5 = 6; 9 + 6 = 15$$

- 25. FREE, LIBERATE
- 26. C: the two circles overlap each other and the square; the triangle and square overlap
- 27. rues/ruse

28. 
$$\frac{27}{74} \times \frac{37}{9} \times \frac{6}{17} = \frac{3}{2} \times \frac{6}{17} = \frac{18}{34} = \frac{9}{17}$$

- 29. N
- 30.

At each stage lines are added to a new corner working anti-clockwise and a new line is added to corners already containing a line.

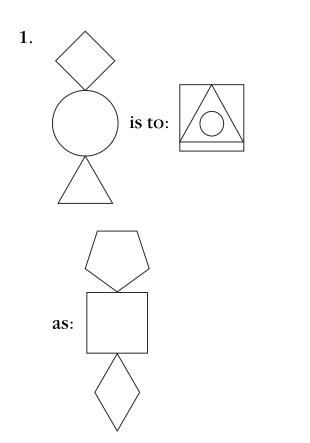
31. 6: 
$$36 \times 2 = 72$$
;  $14 \times 2 = 28$  and  $43 \times 2 = 86$ 

- 32. hold: to form compound words: nightlong, longboat, boathouse, household
- 33. sword
- 34. 32:

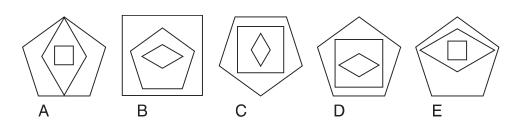
$$6 \times 4 = 6 + 18$$
  
 $7 \times 3 = 11 + 10$   
 $9 \times 2 = 5 + 13$   
 $16 \times 4 = 32 + 32$ 

- 35. B: looking across and down add another circle, alternating black/white, to alternate squares
- 36. 1: average  $45 \div 9 = 5$ ; second lowest even number = 4
- 37. 2 kilograms: half weight = 1 kg (+1 kg) = 2 kg
- 38. EUCALYPTUS, SANDALWOOD
- 39. 5: (6+8)-9
- 40. B: so that each connected straight line of three circles contains one each of the three different types of star

# **Test Seven: Questions**



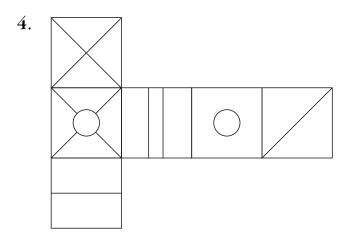
is to:



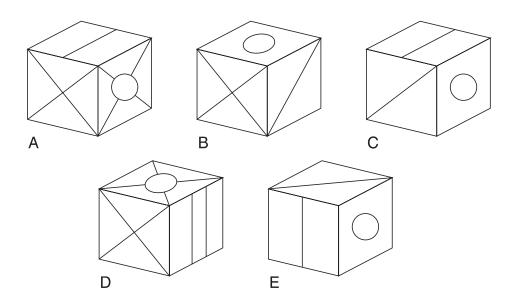
2. Which is the odd one out?

banner, staff, pennant, streamer, oriflamme

3. Peter, Paul and Mary share out a certain sum of money between them. Peter gets ½, Paul gets 0.55 and Mary gets £45.00. How much is the original sum of money?



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



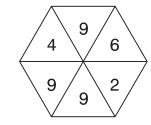
5. Which word in brackets is closest in meaning to the word in capitals?

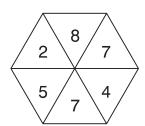
INTRINSIC (precursory, interfering, obstinate, elemental, fascinating)

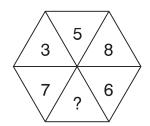
6. Place a four-letter word inside the brackets that will complete a word or phrase when tacked onto the word on the left, and will form another word or phrase when placed in front of the word on the right.

HEAD (\*\*\*\*) LASS

7.



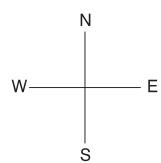




What number should replace the question mark?

8.

1S	2S	2W
1E	1E	1S
1S	1E	1W
1E	1N	1N
1N 2E	Т	



Find the starting point and visit every square once each to finish at the treasure marked T. 1N 2W means 1 North, 2 West.