9.

Which is the missing tile?

A   B   C   D   E

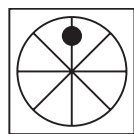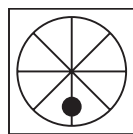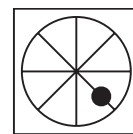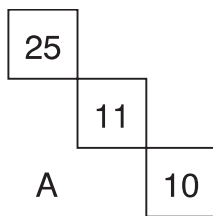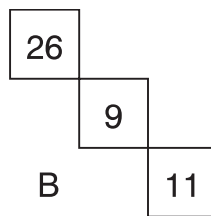10.

20	19	18	17	16
31	28	?	22	19
26	21	16	?	6
26	22	18	14	?

Which is the missing section?

25
  11
A   10

26
  9
B   11

24
  10
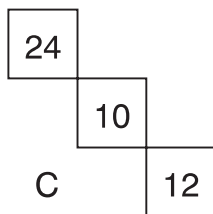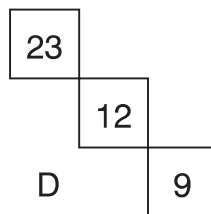C   12

23
  12
D   9

11. Which two words are most opposite in meaning?

    lucrative, proficient, decorous, unskilled, unusual, industrious

12. 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.

    EMBARK (sail, venture, develop)

    INAUGURATE (speech, invent, introduce)

13. Which number is the odd one out?
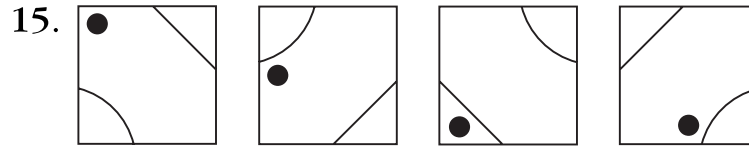
    571219

    461016
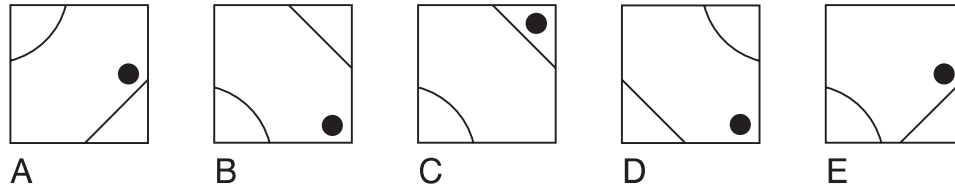
    831114

    461016

    971613

    781523

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

    yank yarn

15.

What comes next in the above sequence?

A   B   C   D   E

16. 100, 97.25, 91.75, 83.5, ?

What number should replace the question mark?

17. dentiform is to tooth as dendriform is to: triangle, tree, doughnut, arch, foot

18. The average of three numbers is 48. The average of two of these numbers is 56. What is the third number?

19. Arrange the three-letter bits below into the correct order to spell out a familiar saying:

nwo ion der tha eak rds lou ssp act

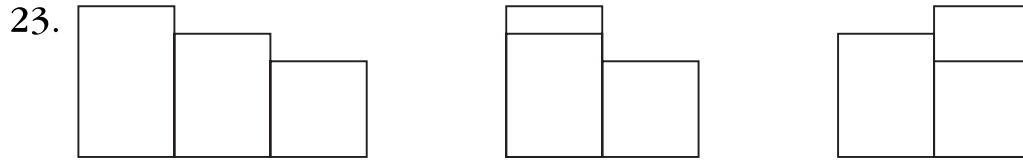20. How many different size circles appear below?
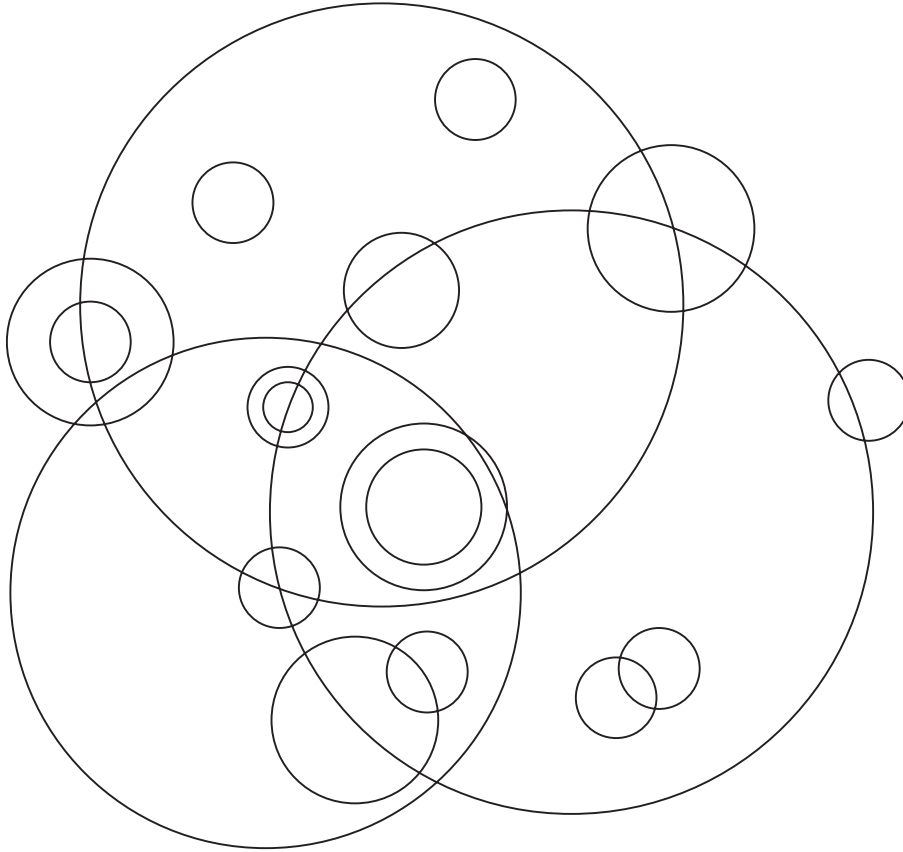
21. What is the longest word in the English language that can be produced out of the set of letters below? Letters may only be used once in the word so produced.
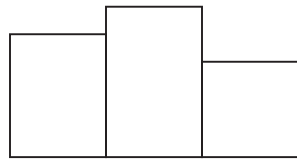
MEOIALJTBG

22. The letters below represent a phrase where the initial letters of each word and the spaces have been removed. What is the phrase?
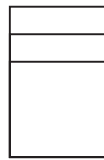
USHHEOATUT

23.

What comes next?
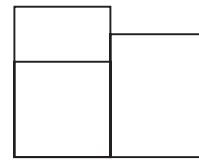
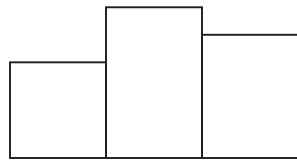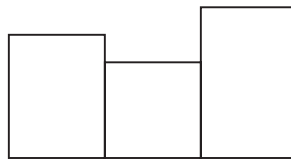A   B   C
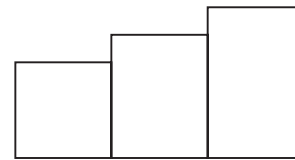
D   E   F

24. 71, 81, 74, 77, 77, 73, 80, 69, ?

What number should replace the question mark?

25. Place a word in the bracket that forms a new word or phrase when tacked onto the word on the left, and another word or phrase when placed in front of the word on the right.

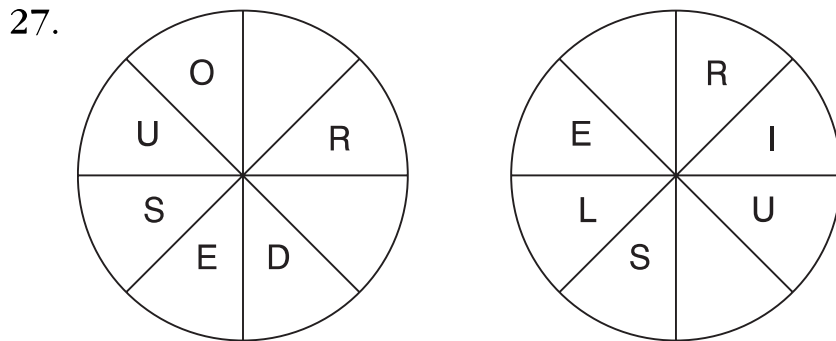home (   ) fast

26.

5	2		
		9	1
3			9
	8	1	

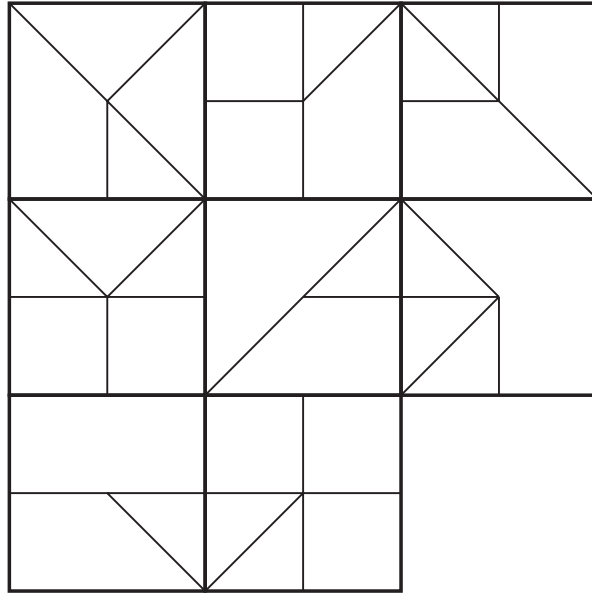Insert the remaining numbers below into the grid so that each line across and down totals 21.

6 6 6
5 5 8
7 3

27.

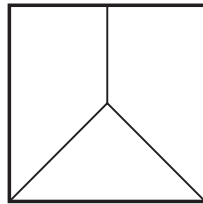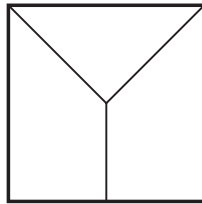Find the starting point and work anti-clockwise round each circle to find two types of creature, each eight letters long. You have to provide the missing letters.

28.

Which is the missing tile?

A

B
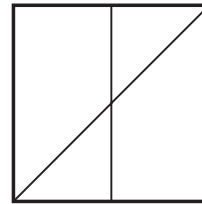
C
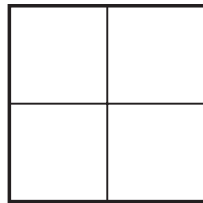
D
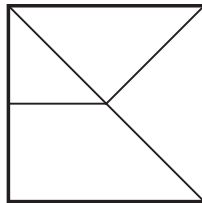
E
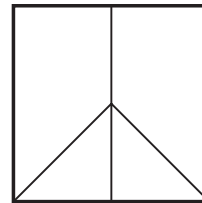
F

29.
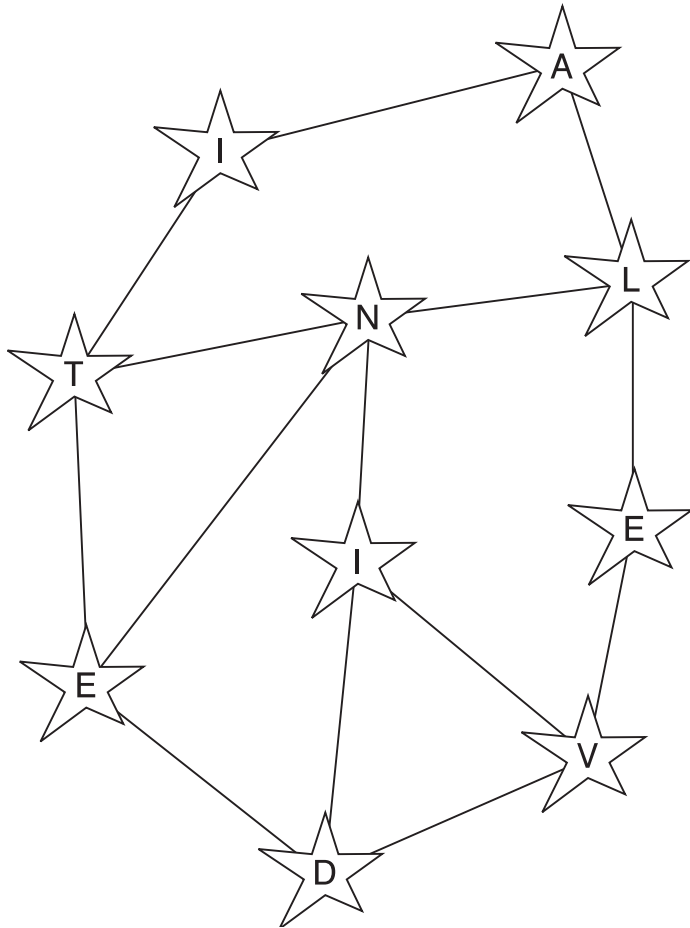
Move from star to star along connecting lines to spell out a 10-letter word. All letters are used once each only.

30.
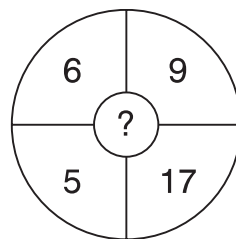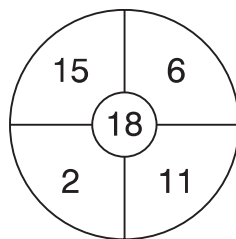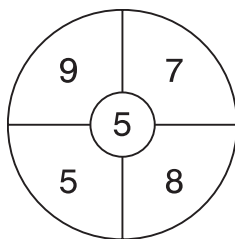
What number should replace the question mark?

31.

Which is missing?

| A | B | C | D | E |
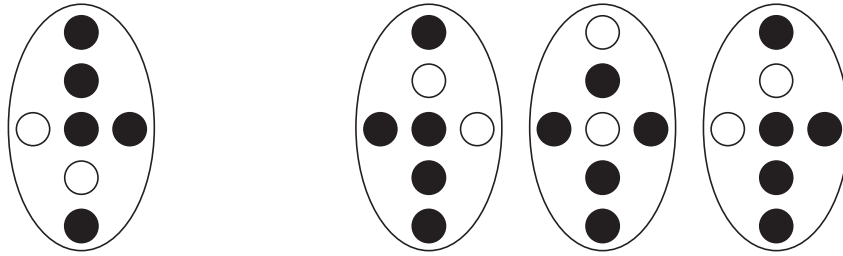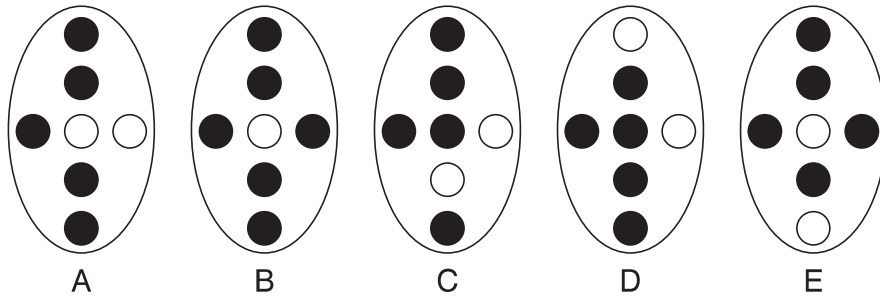
32.
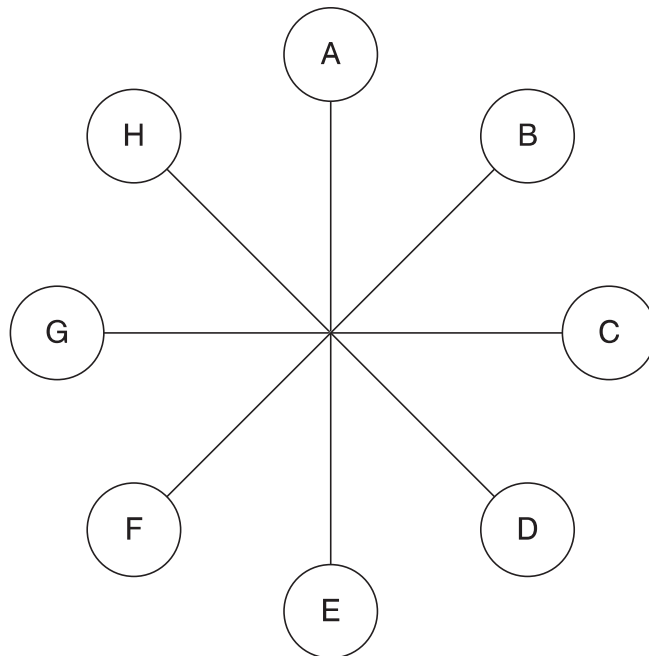
What letter is directly opposite the letter that is two letters away clockwise from the letter that is directly opposite the letter that is three letters away anti-clockwise from the letter E?

33. In 13 years time the combined ages of my three brothers will be 94. What will it be in nine years time?

34.
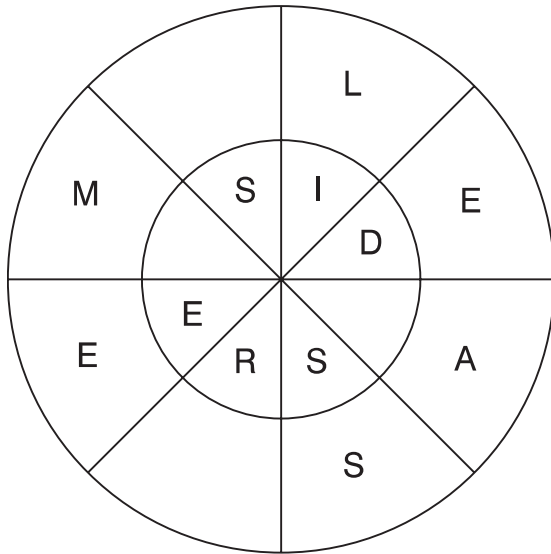
Find two words, one reading clockwise round the outer circle, and one reading anti-clockwise round the inner circle, which are opposite in meaning. You must provide the missing letters.

35.

	7		8		12	
2	21	8	35	8	?	?
	4		11		7	

What numbers should replace the question marks?

36.
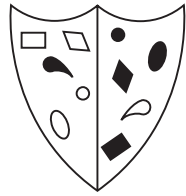
Which shield below has most in common with the shield above?
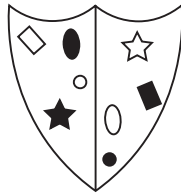
A   B   C

D   E

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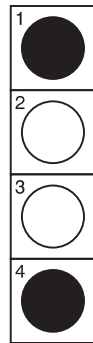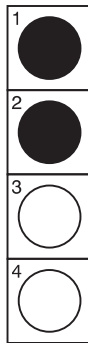
Figure 1   Figure 2

38.

A	P	B		
E	T	L		
A	A	L	S	S
		T	E	T
		A	S	E

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

39.

5	7	4	9	8	2	7
3	8	6	4	7	5	9
9	6	1	4	5	8	?

What number should replace the question mark?

40.
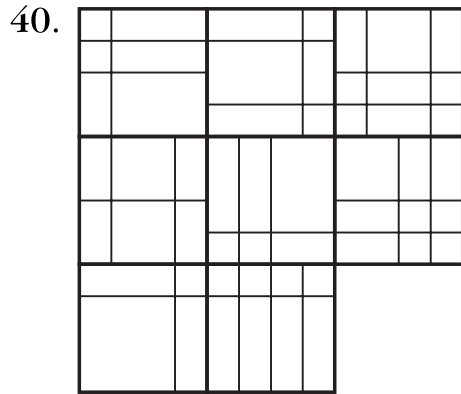
Which is the missing tile?
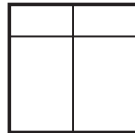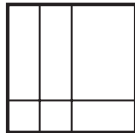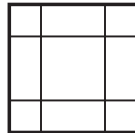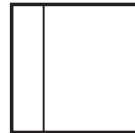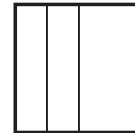
A   B   C   D   E

Test Seven: Answers

1. A: the square goes inside the diamond and the diamond in turn goes inside the pentagon, which turns onto its base

2. staff: it is a support for a flag. The rest are all types of flag.

3. £900: change everything to twentieths. So, $\frac{8}{20} + \frac{11}{20} = \frac{19}{20}$. Therefore, £45.00 must be equal to $\frac{1}{20}$ and original sum of money must be $45 \times 20 = 900$.

4. C

5. elemental

6. WIND: HEADWIND and WINDLASS

7. 1: the number formed at the top is half of the number formed at the bottom i.e. $358 \times 2 = 716$

8.

5	3	7
8	6	2
1	9	4

The above numbers indicate the order in which the nine squares should be visited from the starting point (the square numbered 1) through to the finishing point (the treasure square number 9).

9. B: looking across, the dot moves 45° clockwise at each stage, but looking down it moves 45° anti-clockwise

10. A: lines across progress, in turn, –1, –3, –5, –4

11. proficient, unskilled

12. venture, introduce

13. 971613: numbers are obtained by adding pairs of digits i.e. with 571219: 5 + 7 = 12; 7 + 12 = 19. To follow this same pattern 971613 would have to be 971623.

14. pull wool

15. B: the dot moves corner/side anti-clockwise, the straight line and the curved line both move corner to corner clockwise

16. 72.5: the amount deducted increases by 2.75 each time i.e. 2.75, 5.5, 8.25, 11

17. tree

18. 32: the total of three numbers must be $48 \times 3 = 144$. The total of two numbers must be $56 \times 2 = 112$. Therefore, $144 - 112 = 32$.

19. actions speak louder than words

20. 6

21. OBLIGATE

22. PUSH THE BOAT OUT

23. E: the rectangle starting on the left is moving from left to right one place at a time at each stage

24. 83: there are two alternate sequences: +3 and –4

25. stead: to give homestead and steadfast

26.

5	2	8	6
6	5	9	1
3	6	3	9
7	8	1	5

27. DORMOUSE and SQUIRREL

28. F: looking across and down, lines are carried forward from the first two squares to the final square, except where two lines appear in the same position in the first two squares, in which case they are cancelled out

29. EVIDENTIAL

30. 9: (6 + 17) – (5 + 9)

31. B: the white dots are each moving left to right and bottom to top (and vice versa) one place at a time at each stage

32. D

33. 82:

    Combined age in 9 years time will be 94 – (3 × (13 – 9)).

34. ASSEMBLE, DISPERSE

35. 31 and 4: 12 × 7 = 84; 8 + 12 + 7 + 4 = 31

36. B: the left side contains the same symbols as the right side but with black/white reversal

37. Switch B is faulty.

38. PALATABLE, TASTELESS

39. 6: 5749827 + 3864759 = 9614586

40. E: looking across and down, lines are carried forward from the first two squares to the final square, except where two lines appear in the same position in the first two squares, in which case they are cancelled out

Test Eight: Questions

1. 0, 1, 3, 6, 7, 9, 12, 13, 15, 18, ?, ?, ?

   What numbers should replace the question marks?

2. Find two words that differ only by the omission of a single letter (for example, place/pace), in answer to the following clue:

   bowl-shaped cavity/provide food

3.

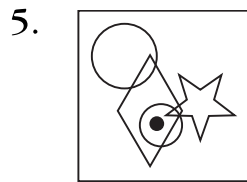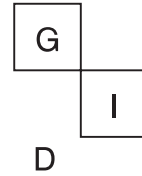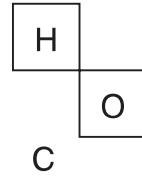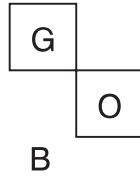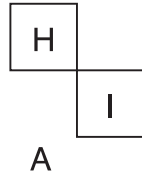| 43	6	16	12	24
2	22	1	4	9
46	30	48	5	13
38	8	36	7	3
11	20	14	10	15

   What number in the grid is three places away from itself less two, two places away from itself divided by two, three places away from itself less five and three places away from itself multiplied by three?

4.

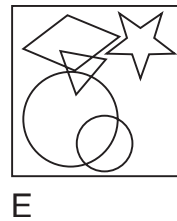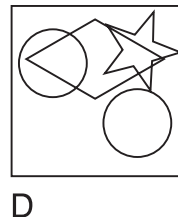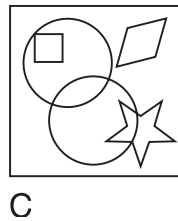| A	C	F
E	?	J
J	L	?

Which is the missing section?

H	
	I

A

G	
	O

B

H	
	O

C

G	
	I

D

5.

To which of the squares below can a dot be added so that the dot then meets the same conditions as the dot in the square above?

A   B   C   D   E
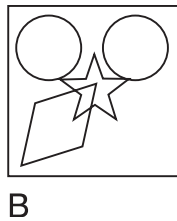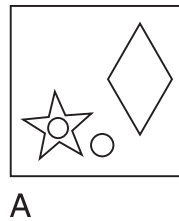
6. Complete the following to create a palindromic phrase i.e. one that reads the same forwards and backwards, such as Madam I'm Adam.
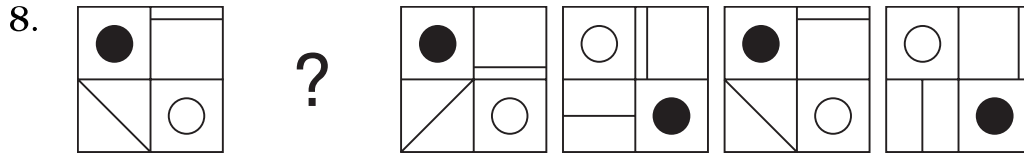
*U**L* ***P **

Clue: scholarly errors!

7. 8 3   6 4   4 5   ? ?
    9 6   6 5   3 4   ? ?

What numbers should replace the question marks?

8.   **?**

Draw the missing figure in the above sequence.

9. Which is the odd one out?

    sow, bull, buck, boar, stallion

10. The ages of five family members total 107 between them.

    The ages of Margaret and Stuart total 29 between them.
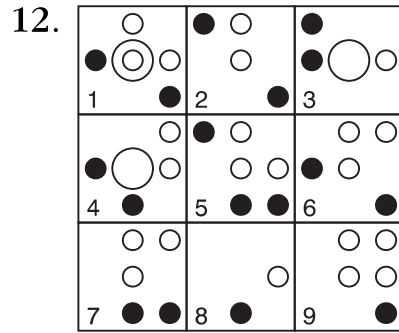   The ages of Stuart and Jeffrey total 44 between them.
    The ages of Jeffrey and Brian total 57 between them.
   The ages of Brian and Philip total 46 between them.

    How old is each family member?

11. IVY CITRATE is an anagram of which two 10-letter words
    in the English language?

12.

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
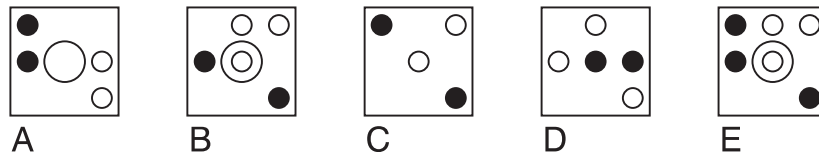
13. Which two words are most opposite in meaning?
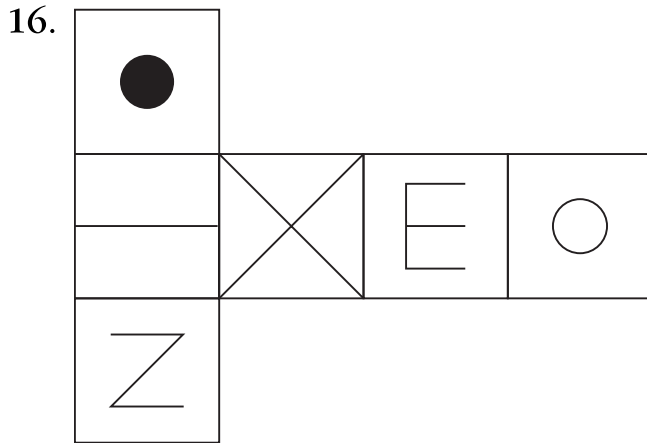
watertight, humid, tractable, opulent, portentous, tenuous

14.

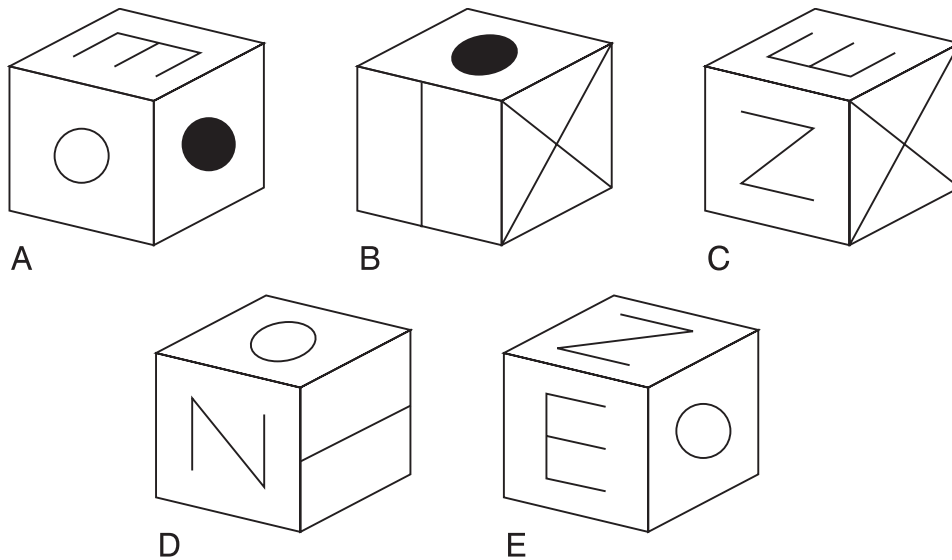| 7	6	5	7	6	3
4	9	2	8	1	9
1	3	7	3	2	7
3	8	4	9	9	5
5	4	2	3	2	?

What number should replace the question mark?

15. Add three consecutive letters of the alphabet to the group of letters below, without splitting the consecutive letters of the alphabet, to form another word.

    GERE

16.

   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

17. closed is to shut as open is to: obscure, visible, field, overt, wide
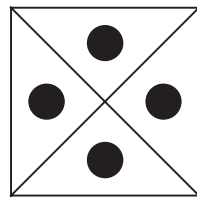
18. Harry is one and a third as old as Larry and Larry is one and a third as old as Carrie. Together their ages total 74. How old are Larry, Harry and Carrie?
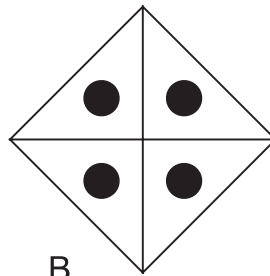
19. Which two words are closest in meaning?

    salubrious, healthy, identical, conspicuous, devout, bleak
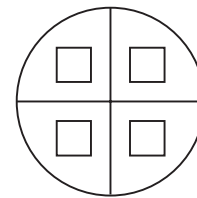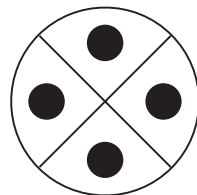
20.

21.
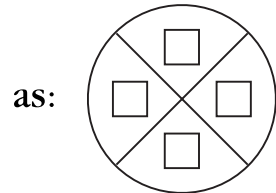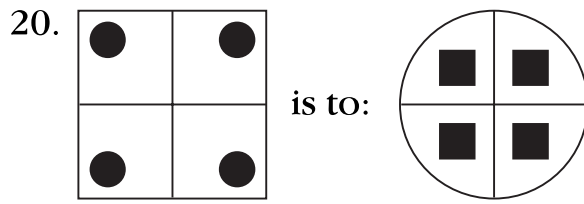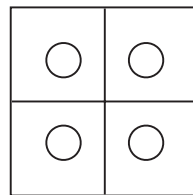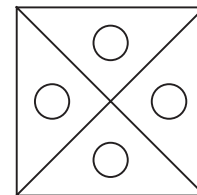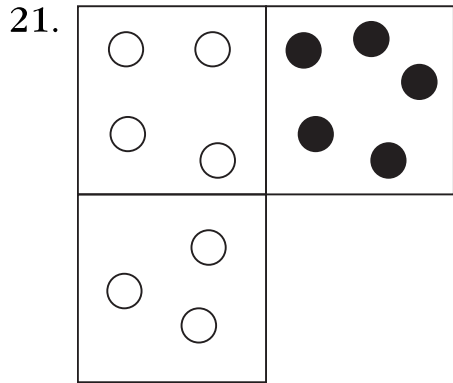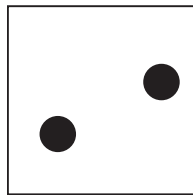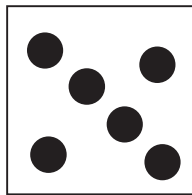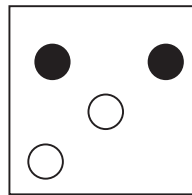

Which is the missing tile?

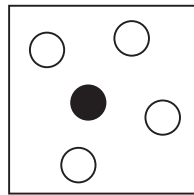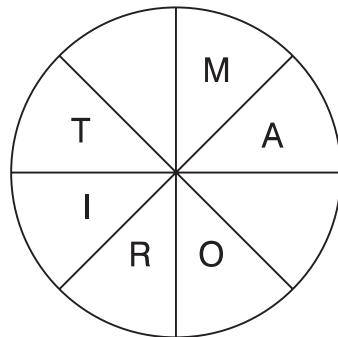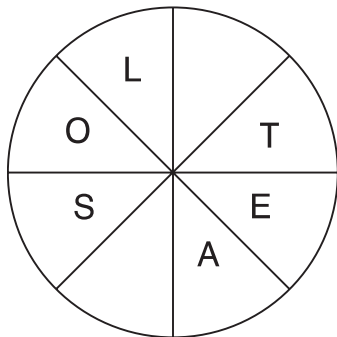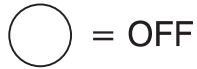A   B   C
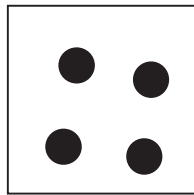
D   E

22. Find two words, both reading clockwise round each circle. You must find the starting point of each word and provide the missing letters. The two words form a phrase.

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

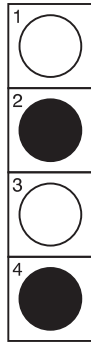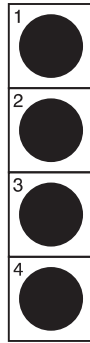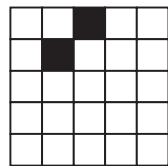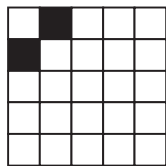   Figure 1   Figure 2

24.

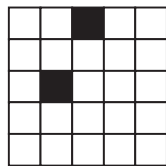   Which is missing?
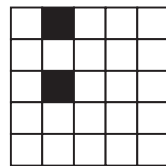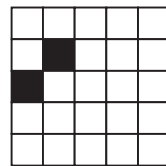
    A   B   C   D   E

25. The letters below represent a phrase where the initial letters of each word and the spaces have been removed. What is the phrase?

    INEFORK

26.

23	24	41
57	92	91
18	16	28
56	21	19

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

27. Only one group of five letters below can be rearranged to spell out a five-letter word in the English language. Identify the word.

    LEVUR

    TNIEC

    HEOLC

    ANOIP

    IRNAL

28. 1, 2.25, 3.75, 5.5, 7.5, 9.75, ?

    What number should replace the question mark?

29. Place a word in the bracket that forms a new word or phrase when tacked onto the word on the left, and another word or phrase when placed in front of the word on the right.
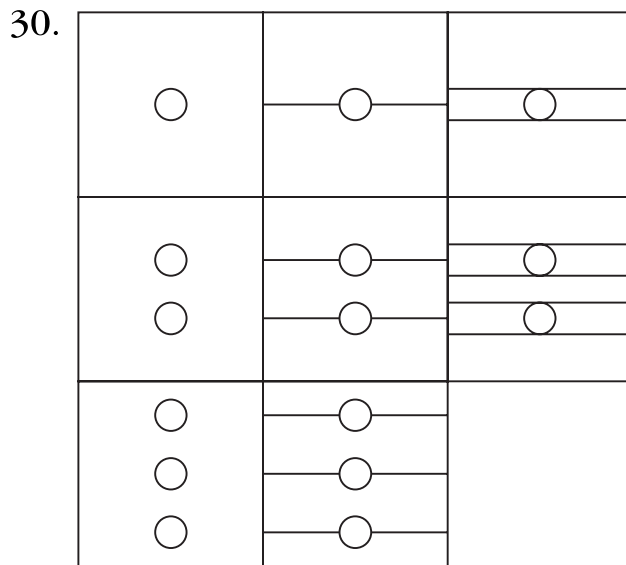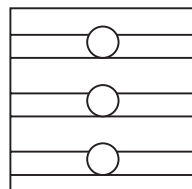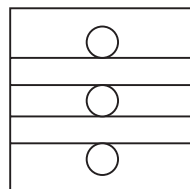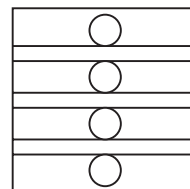
second (   ) some

30.

Which is the missing tile?
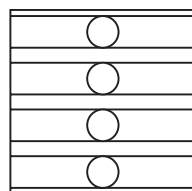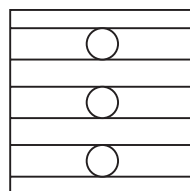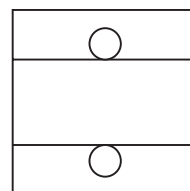
31. How many minutes is it before midnight if 32 minutes ago it was three times as many minutes past 22.00?

32. boater, nail, about, ruin, alibi, ?

    Which word below comes next in the above sequence?

    stray, tiara, treat, suit, trail

33.
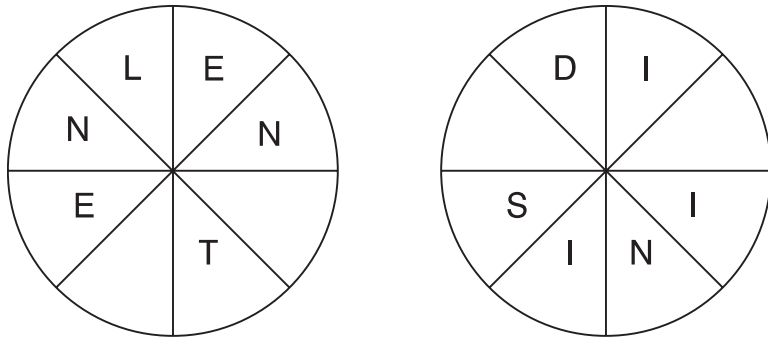
    Work clockwise round the circles to spell out two eight-letter words that are antonyms. Each word commences in a different circle, and you must find the starting point of each. Every letter is used once each and all letters are consecutive.

34. 1, 31, 59, 85, 109, ?

    What number should replace the question mark?

35.
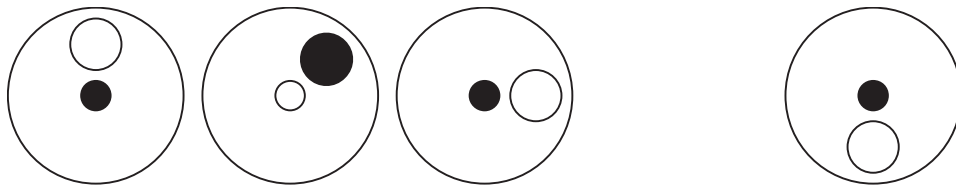
    Draw the missing figure in the above sequence.

36.
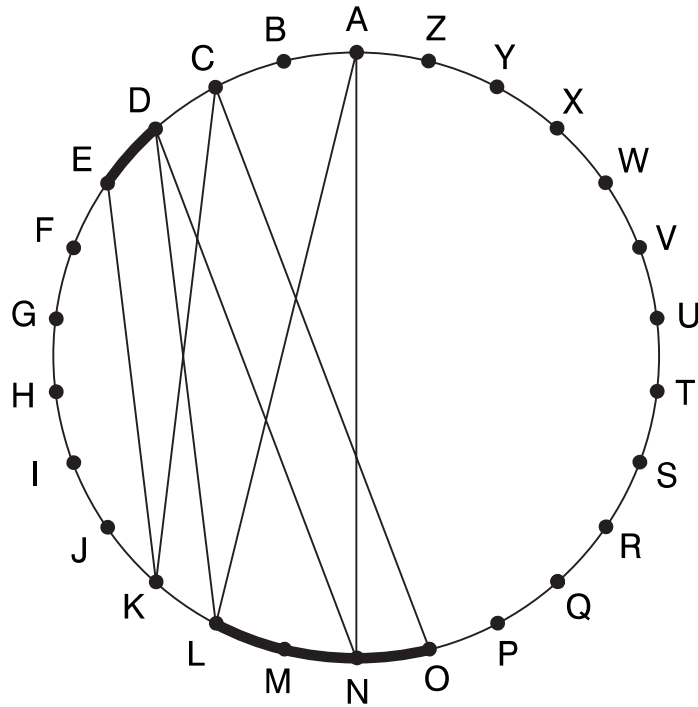
Find two words (4, 6) in this diagram. Letters are traced across the circle by chords. If the next letter is four letters or less away, it will be found by tracing around the circumference. Clue: no coastline

37.

E	L	I
	F	E
	I	D

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.

38. What is $\dfrac{5}{9}$ divided by $\dfrac{15}{18}$?

39. Three coins are tossed in the air and two of the coins land with heads face upwards. What are the chances on the next toss of the coins that at least two of the coins will land with heads face upwards again?

40.
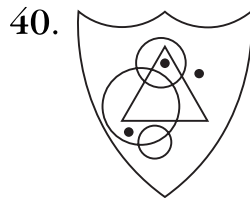
Which shield below has most in common with the shield above?
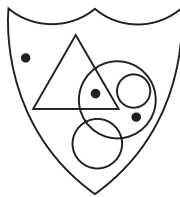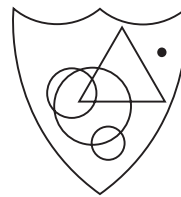
A   B   C
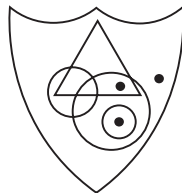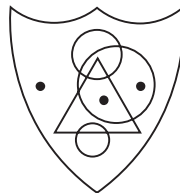
D   E

Test Eight: Answers

1. 19, 21, 24: the sequence progresses +1, +2, +3 repeated

2. crater/cater

3. 8

4. B: looking across, the letters jump +2, +3 in the alphabet, for example – AbCdeF. Looking down, they progress +4, +5, for example – AbcdEfghiJ.
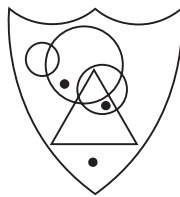
5. D: so the dot appears in the diamond and circle only

6. PUPILS SLIP UP

7. 2 6
   0 3

   Looking across, the numbers in the same position in each pair progress: 8, 6, 4, 2; 3, 4, 5, 6; 9, 6, 3, 0; 6, 5, 4, 3

8.
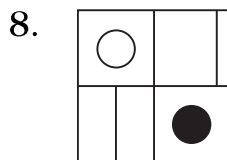
The top left-hand corner alternates black dot/white dot; the top right-hand corner alternates horizontal line/vertical line; the bottom left-hand corner line moves diagonal/ vertical/diagonal/horizontal/diagonal, and the bottom right-hand corner alternates white dot/black dot.

9. sow: it is a female animal, the rest are male

10. Margaret 17, Stuart 12, Jeffrey 32, Brian 25 and Philip 21

11. CREATIVITY, REACTIVITY

12.
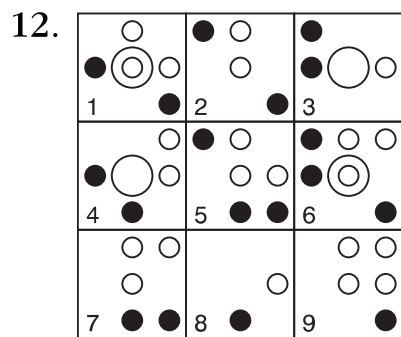
Tile 6 is incorrect and should be replaced by tile E.

13. watertight, tenuous

14. 6: the total of the numbers in each column alternates 20, 30, 20, 30, 20, 30

15. GESTURE

16. A

17. overt

18. Harry 32, Larry 24, Carrie 18

19. salubrious, healthy

20. F: the circle becomes a square and the four white squares become white circles

21. D: looking across, the number of dots increases by one and white becomes black. Looking down, the number of dots decreases by one and the dots stay the same colour.

22. ABSOLUTE MAJORITY

23. Switch C is faulty.

24. C: the black square originally in the top right-hand corner is moving right to left one space at a time at each stage. The other black square is moving from bottom to top.

25. LINE OF WORK

26. 1456 (91 × 16)

27. ANOIP = PIANO

28. 12.25: add 1.25, 1.5, 1.75, 2, 2.25, 2.5

29. hand: second hand, handsome

30. E: looking across, the number of lines increases. Looking down, the number of circles increases by one and the circles fit within the bands formed by the lines.

31. 22 minutes. Midnight less 22 minutes = 11.38. Less 32 minutes = 11.06. 10 p.m. (22.00) plus 66 minutes (22 × 3) = 11.06.

32. tiara. The consonants b t r n and l are being repeated in the same order.

33. LENGTHEN, DIMINISH

34. 131: add 30, 28, 26, 24, 22

35.
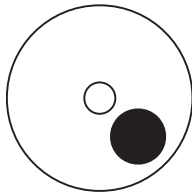
The large circle moves 45° clockwise and alternates white/black. The centre dot alternates black/white.

36. LAND LOCKED

37. DISBELIEF

38. $\dfrac{5}{9} \times \dfrac{18}{15} = \dfrac{2}{3}$

39. 50 per cent: it is a certainty that at least two coins will land with the same side face up. It is equally likely that these two coins will land heads up as they will land tails upwards. It is immaterial what occurred in the previous toss.

40. B: it has three circles of differing sizes, one triangle, one dot out on its own, one dot in the large circle only and the other dot in the middle-sized circle and triangle.

Test Nine: Questions

1.

 is to:

as:

is to:

A

B

C

D

E
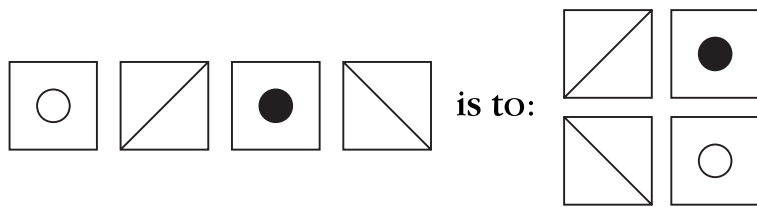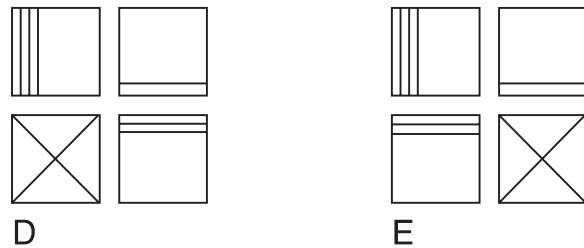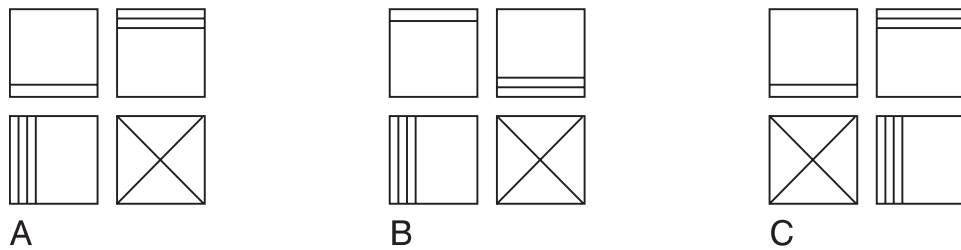
2. VEILED HARE is an anagram of which two words that are opposite in meaning?

3. Add one letter, not necessarily the same letter, to the beginning, middle or end of the words below to find five new words all on the same theme.

    back live fan can pin

4.

1	3	5	7
4	8	?	16
7	?	19	25
10	18	?	34

Which is the missing section?

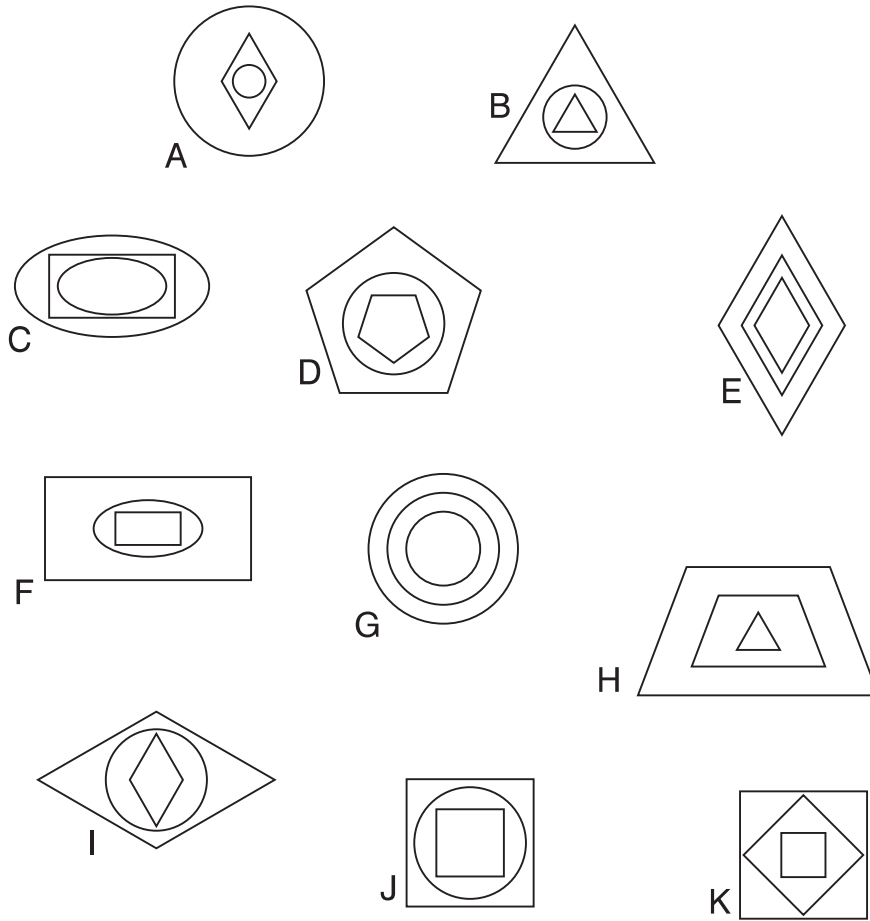|	12			14			13			13
13			14			12			14	
	26			24			26			24
A			B			C			D	

5. A B C D E F G H

    Which letter is two to the left of the letter that is four to the right of the letter immediately to the right of the letter A?
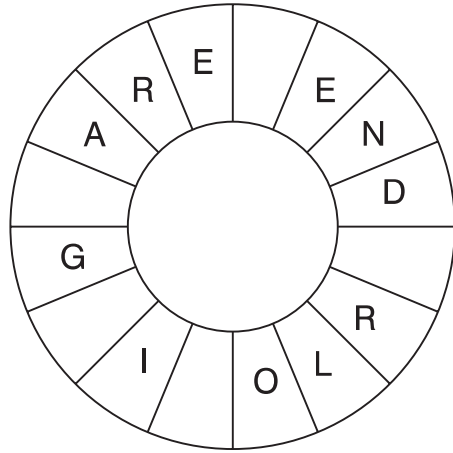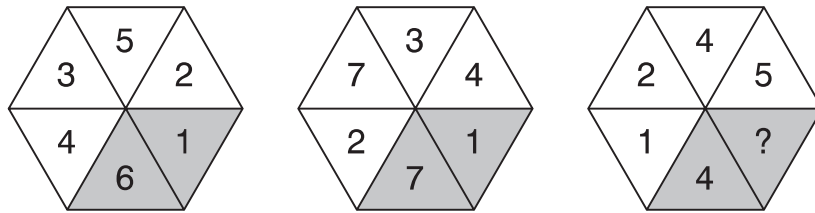
6. Which is the odd one out?

7.

Find a familiar phrase (6, 6, 4) reading clockwise. You have to find the starting point and provide the missing letters.
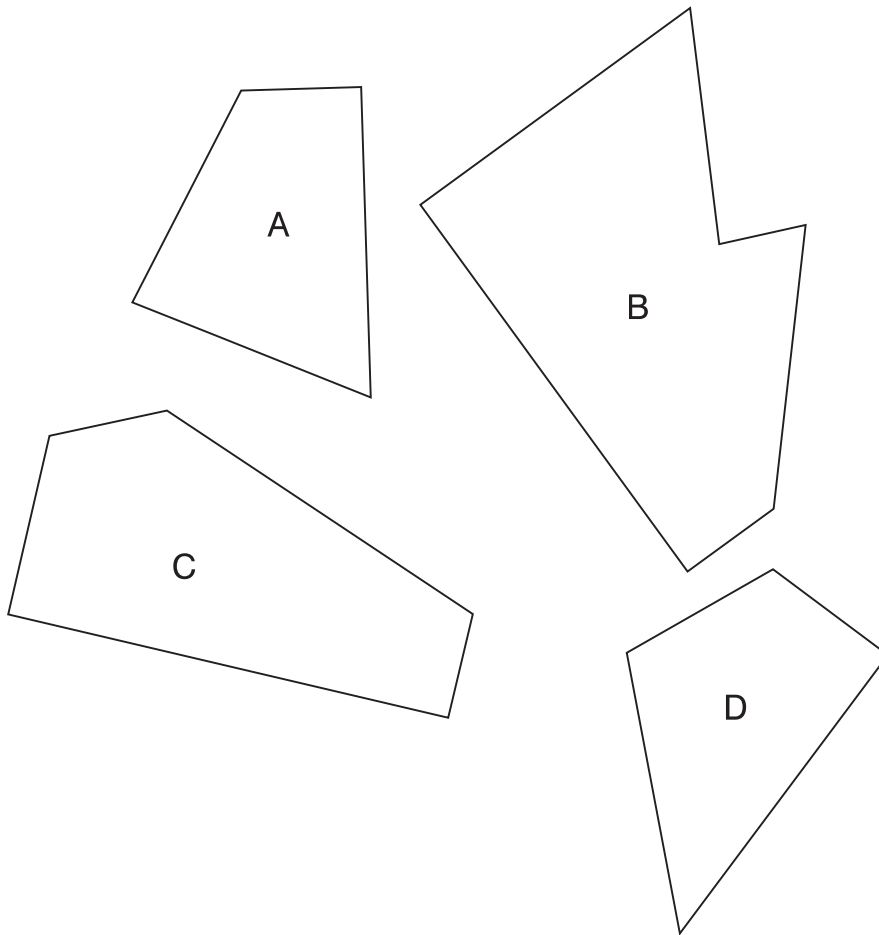
8.

What number should replace the question mark?

9.   eastern, reality, titanic, ?

Which of the words below comes next?

natural, omnibus, include, devious or shingle

10. Which three of the pieces below, when fitted together, will form a perfect square?

11. RASCAL MARE is an anagram of which two words that are similar in meaning?

12. gallery is to balcony as stalls is to: proscenium, stage, audience, footlights, pit

13. 3182596 is to 65283

and 6742835 is to 53476

therefore 7496258 is to ?

14. A, C, F, J, O, ?

What letter comes next?

15.

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

16. 0, 27, 54, ?, 108, 135

What number should replace the question mark?

17. Which is the odd one out?

    bolero, calypso, waltz, salsa, polka

18.

6	10	14	18
9	13	?	21
12	?	20	24
15	?	23	27

Which section is missing?

A.
	17
19	
16	

B.
	17
16	
19	

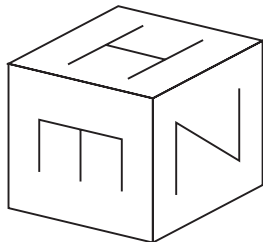C.
	16
19	
17	

D.
	16
17	
19	

19. I met four of my old school friends today. In the morning I first saw Patricia and later bumped into Richie. Then in the afternoon I saw Christabel. Who did I encounter in the evening? Was it Thora, Stella, Thelma or Sally?
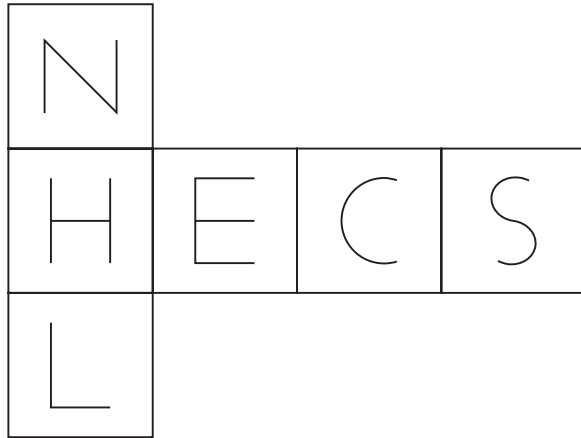
20.

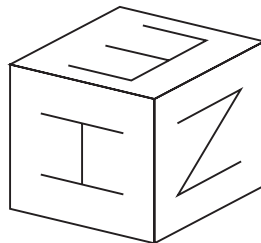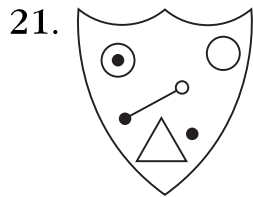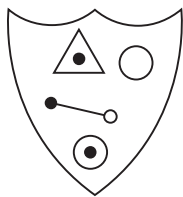When the above is folded to form a cube, which is the only one of the following that *can* be produced?
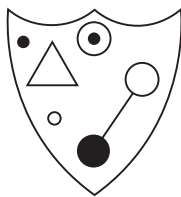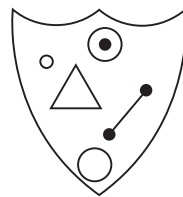
A

B

C

D

E

21.
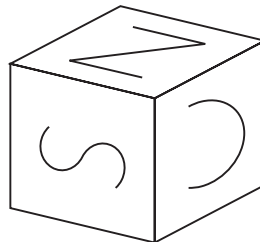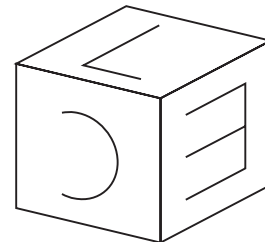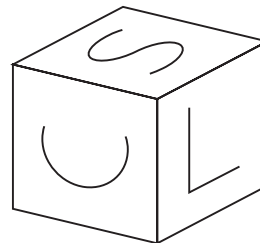
Which shield below has most in common with the shield above?
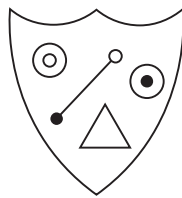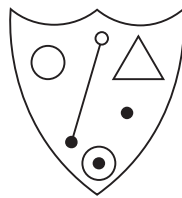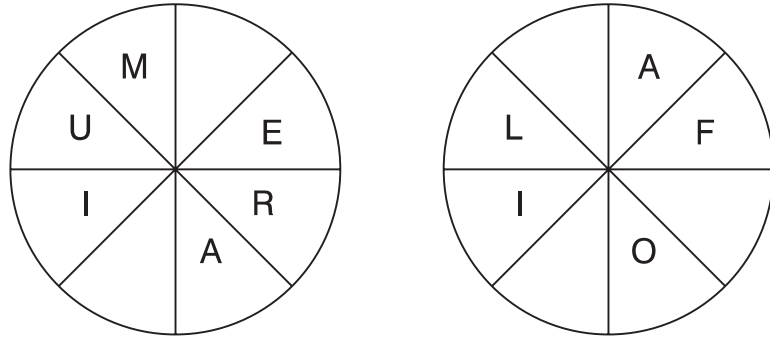
A   B   C

D   E

22.

7	4	5	2
5	1	9	3
2	9	1	6
?	4	3	7

What number should replace the question mark?
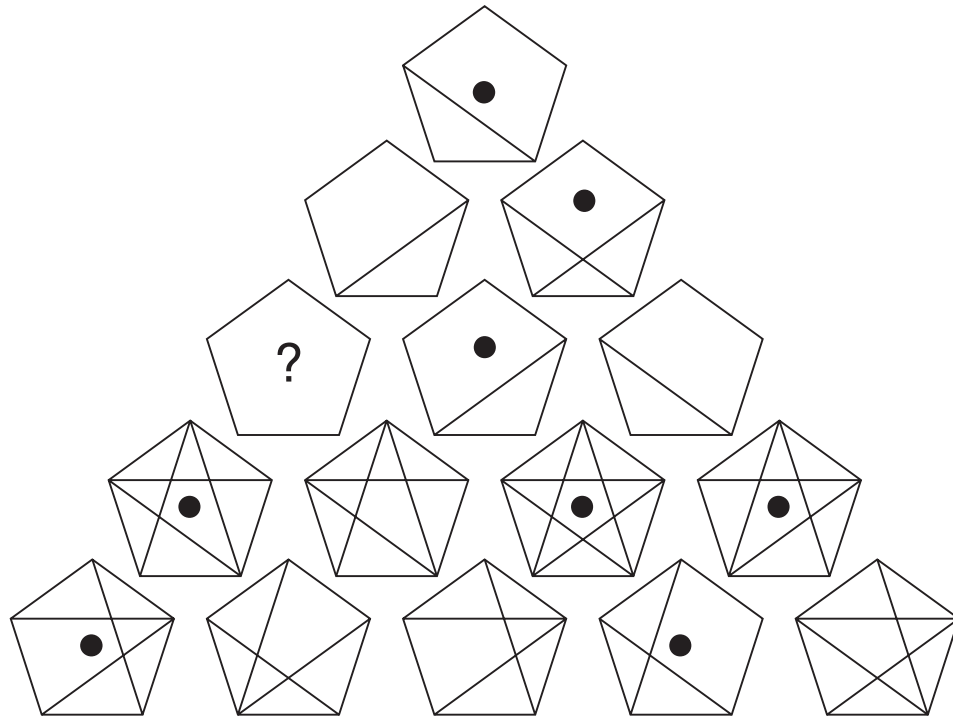
23.

Find the starting point and work clockwise round each circle to find two types of flower, each eight letters long. You have to provide the missing letters.

24.

Which is missing?

| A | B | C | D | E |