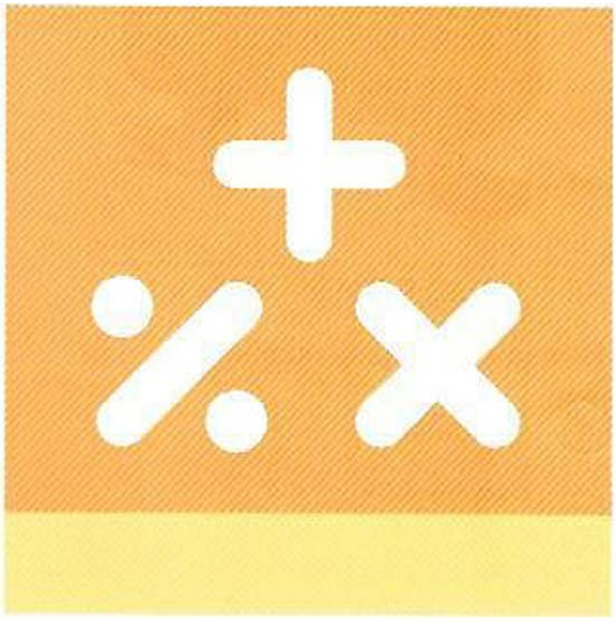
ICAS

PAPER C



2017 MATHEMATICS

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED.

40 QUESTIONS

TIME ALLOWED: 45 MINUTES

Read the instructions on the **ANSWER SHEET** and fill in your **NAME**, **SCHOOL** and **OTHER INFORMATION**.

Use a pencil. Do **NOT** use a coloured pencil or a pen.

Rub out any mistakes completely.

You **MUST** record your answers on the **ANSWER SHEET**.

Mark only **ONE** answer for each question.

Your score will be the number of correct answers.

Marks are **NOT** deducted for incorrect answers.

There are **40 MULTIPLE-CHOICE QUESTIONS** (1–40).

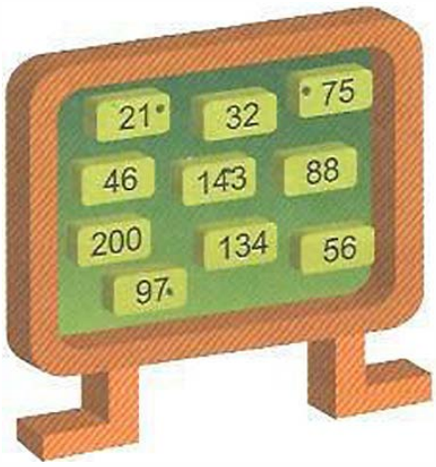
Use the information provided to choose the **BEST** answer from the four possible options.

On your **ANSWER SHEET** fill in the oval that matches your answer.

You may use a ruler and spare paper.

You are **NOT** allowed to use a calculator.

1. Rosie has some tiles on a board.



Each tile has a number on it.

How many of these numbers are odd?

(A) 4
(B) 6
(C) 8
(D) 10

2. Cai wrote down a number pattern.

97

93

?

85

81

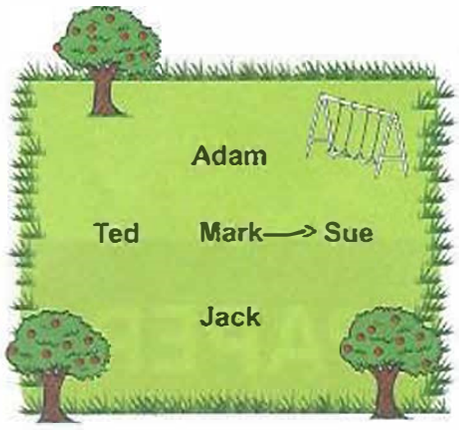
What number should ? be?

(A) 87
(B) 88
(C) 89
(D) 90

3. Which of these numbers has its largest digit in the tens column?

(A) 135
(B) 983
(C) 356
(D) 967

4. Five students are standing in a park.



Mark is facing Sue.

Who is standing behind Mark?

(A) Ted
(B) Sue
(C) Jack
(D) Adam

5. Kimi decided to start fishing at the morning high tide. She looked up the times for low tide and high tide that day.

MONDAY 6 JUNE

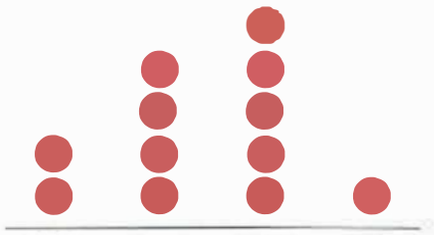
LOW	3:10 am 0.18 m
HIGH	9:01 am 1.30 m
LOW	2:40 pm 0.33 m
HIGH	9:30 pm 1.71 m

At what time should Kimi start fishing?

(A) 3:10 am
(B) 9:01 am
(C) 2:40 pm
(D) 9:30 pm

6. Lulu asked 12 friends what they had for lunch. She recorded the results as a dot plot. Two more friends had rice than salad.

Which column shows the number of friends who had salad?



(A) (B) (C) (D)

7. Toma had this card.

Which of these cards is identical to Toma's card?

(A) (B) (C) (D)

8. What is the mass shown on the scale?

(A) 4.75 kilograms
(B) 4.25 kilograms
(C) 3.75 kilograms
(D) 3.25 kilograms

9. Which of these is almost certain to happen?

(A)

Jim tosses a coin and it lands on heads.

(B)

Sasi turns the page on the calendar and the next day is Friday.

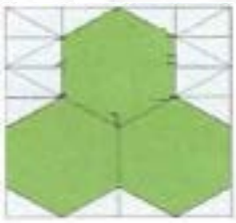
(C)

Mary flicks the spinner and it lands on 3.

(D)

Harry picks the green jellybean without looking.

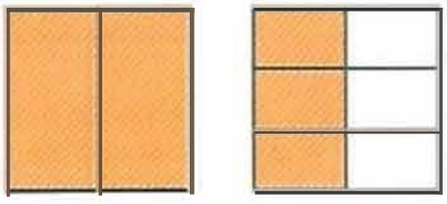
10. Lani drew three hexagons on triangular grid paper and shaded them green.

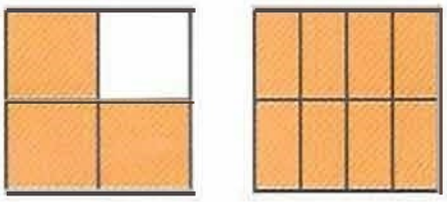


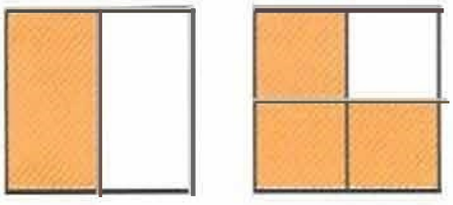
How many triangles did Lani shade?

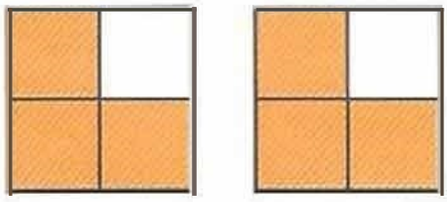
(A) 18
(B) 20
(C) 30
(D) 36

11. Which of these pictures shows $1\frac{3}{4}$ shaded squares?

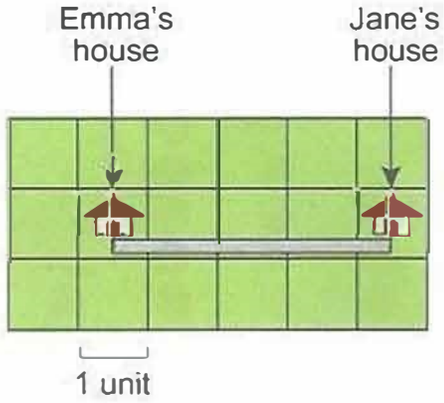
(A)


(B)


(C)


(D)


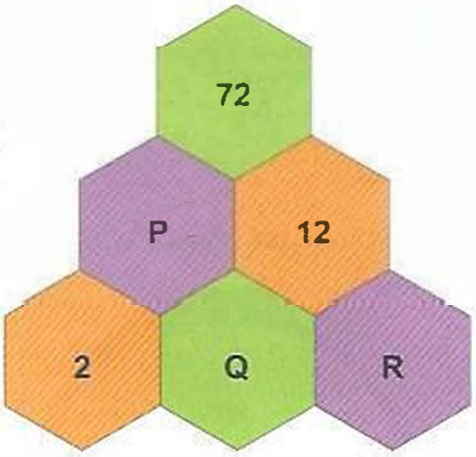
12. The entrance to Emma's house is 200 metres from the entrance to Jane's house as shown.



What does 1 unit on the map represent?

(A) 20 metres
(B) 25 metres
(C) 40 metres
(D) 50 metres

13. To obtain the number in each hexagon, Holly multiplied the numbers in the two hexagons directly below it.



What are the values of P, Q and R?

	P	Q	R
(A)	6	3	4
(B)	8	3	4
(C)	6	4	3
(D)	8	4	3

14. Gina had a compass.

Gina followed these directions in order:

- turn west and walk 10 metres
- turn north and walk 20 metres
- turn east and walk 40 metres
- turn south and walk 20 metres.

How far was Gina from her starting point?

(A) 10 metres
(B) 20 metres
(C) 30 metres
(D) 40 metres

15. Toby had a playlist with 6 songs.

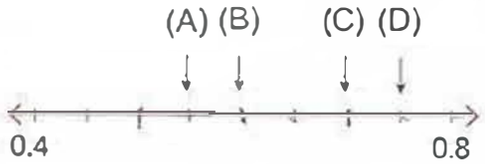
Track	Time	
	minutes	seconds
Song 1	2 : 30	
Song 2	1 : 50	
Song 3	2 : 50	
Song 4	1 : 40	
Song 5	4 : 20	
Song 6	7 : 10	

He played the songs in order from the start of Song 1, without pausing.

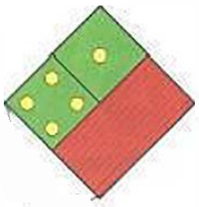
Which song was playing exactly 7 minutes after Toby started the playlist?

(A) Song 3
(B) Song 4
(C) Song 5
(D) Song 6

16. Where is 0.7 on this number line?

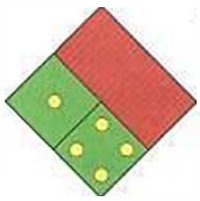


17. Janice drew this shape.



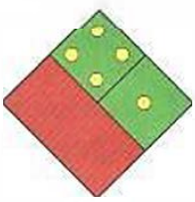
Janice rotated it anticlockwise by a quarter of a turn.

Which of these shows the shape after this rotation?


(A)


(B)


(C)


(D)

18. Which two numbers differ by 43?

(A) 28 and 71
(B) 38 and 71
(C) 28 and 75
(D) 38 and 75

19. There are 9 marbles in this bag.

KEY
B = blue
G = green
R = red
Y = yellow

Tom took out a green marble leaving 8 marbles in the bag.

Then it was Julie's turn to take out a marble without looking.

Which two colours does Julie have the same chance of taking out?

(A) yellow and red
(B) green and red
(C) green and yellow
(D) red and blue

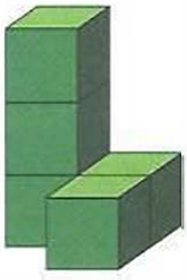
20. In a small wildlife park, one-quarter of the animals are snakes and the rest are lizards or birds. There are 70 snakes in the wildlife park.

How many lizards and birds are there?

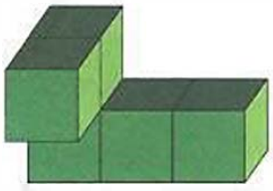
(A) 70
(B) 140
(C) 210
(D) 280

21. Lin made this solid using five cubes.

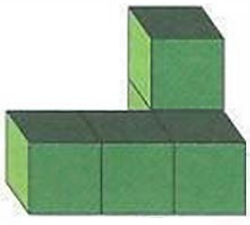
Which of these is **NOT** Lin's solid?



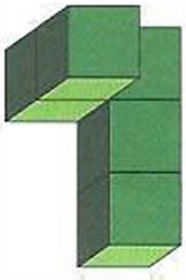
(A)



(B)



(C)



(D)

22. Ardi, Priya and Raj took turns to paint their house. The house painting began at 7 am and finished at 11 pm without a break.

Priya painted for one-quarter of the time. Ardi painted for the same amount of time as Raj.

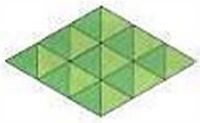
How long did Raj spend painting the house?

(A) 12 hours
(B) 6 hours
(C) 4 hours
(D) 3 hours

23. Emma is making a pattern of diamonds using small triangles.

Shape 1
2 triangles

Shape 2
8 triangles



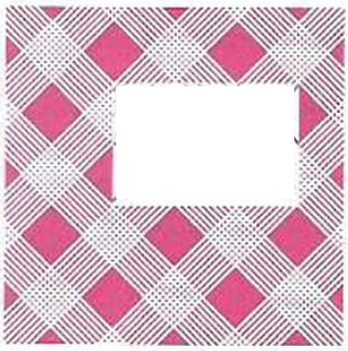
Shape 3
18 triangles

Shape 4

How many small triangles will she need to make the 4th shape in her pattern?

(A) 32
(B) 28
(C) 25
(D) 22

24. Lynne cut a piece out of this square.



Which of these is the cut-out piece?

(A)

(C)

(D)

25. There are 12 animal signs in the Chinese calendar. They repeat every 12 years in the same order. For example, people born in 1955 or 1967 were born in the 'Year of the Goat'.

1955

Year of the Goat

1956

Year of the Monkey

1957

Year of the Rooster

1958

Year of the Dog

Cai turned 35 o :0 April 2017.

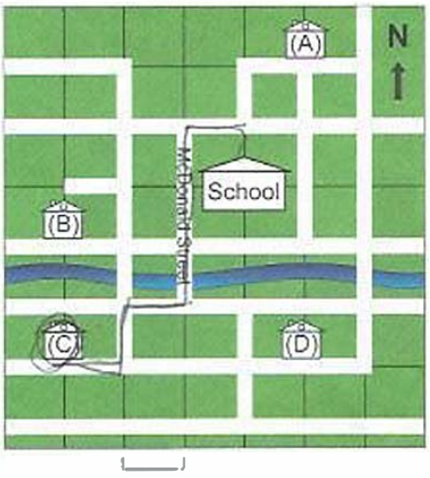
In v hich 'Year' was he born?

(A) Year of the Dog
(B) Year of the Goat
(C) Year of the Rooster
(D) Year of the Monkey

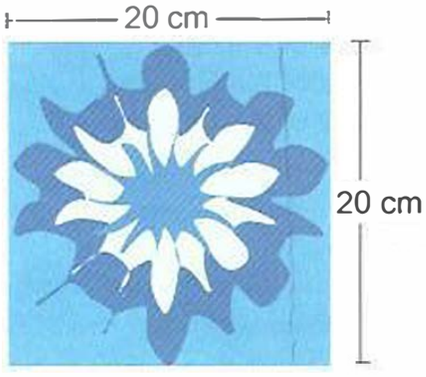
26. Freya left this note with the directions to her house.

> Leave school, turn left onto McDonald Street and walk to the end. Turn right and walk 100 metres. Turn left and walk 100 metres then turn right and walk 100 metres. My house is the white one.

Which house is Freya's?



27. Josh wants to make a quilt for his bed using a number of these squares.



The rectangular quilt must cover his bed measuring 80 cm by 200 cm and have an extra 20 cm on all four sides.

How many squares does Josh need to make the quilt?

(A) 40 (B) 44
(C) 68 (D) 72

28. Fadi only had from 3:40pm until 5:25pm to see a movie with his friends.

This was the movie timetable.

Return of the Snowman
Length: 2 hours 10 minutes Showing 3:40pm and 5:50 pm
Flying Home
Length: 1 hour 20 minutes Showing 3:20pm and 4:05 pm
Wally the Watchmaker
Length: 1 hour 45 minutes Showing 3:30pm and 5:20pm
The Secret Door
Length: 1 hour 40 minutes Showing 3:50 pm and 4:55 pm

Fadi and his friends watched one complete movie together.

Which movie did they watch?

(A) *Return of the Snowman*
(B) *Flying Home*
(C) *Wally the Watchmaker*
(D) *The Secret Door*

29. Debbie used the digits 4, 7 and 8 to make 2-digit numbers. For example, 47 and 88 were two of the nine numbers that Debbie made.

How many of these 2-digit numbers are divisible by 3?

(A) 1
(B) 2
(C) 3
(D) 4

30 ★ − 12 = ◆

◆ + ◆ + ◆ = ★ + ★

What is value of ★ ?

(A) 18
(B) 24
(C) 30
(D) 36

31. There are 24 students in Mr Sim's class.

Four students play two sports. All other students play only one sport.

Mr Sim is making a table to show the number of students who play each sport.

Sport	Number
Tennis	
Soccer	
Volleyball	5
Basketball	?

One-quarter of the students play tennis.

How many students in Mr Sim's class play basketball?

(A) 9
(B) 8
(C) 6
(D) 5

32. Dani is a baker.

She started with 1 gram of yeast. The amount of yeast doubled every 12 hours.

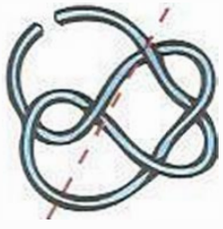
How much yeast was there after 48 hours?

(A) 4 grams
(B) 8 grams
(C) 16 grams
(D) 24 grams

33. Aditya had this tangled piece of wool.

He cut the wool into 7 pieces using one straight cut.

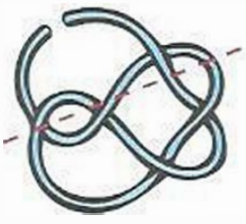
Which of the following diagrams shows the path Aditya took to cut the wool?



(A)

(B)

(C)



(D)

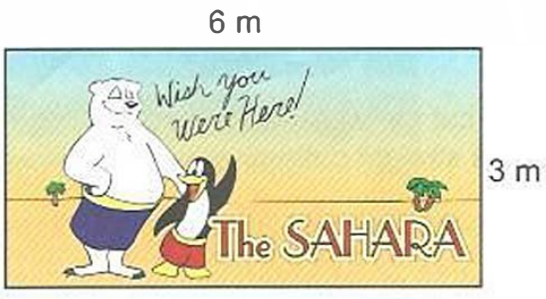
34.

$$\begin{array}{r} \blacktriangle\ \star \\ \star\ 7 \\ +\quad 1\ \blacktriangle \\ \hline 1\ 0\ \star \end{array}$$

(A) $\blacktriangle = 2$ $\star = 6$
(B) $\blacktriangle = 3$ $\star = 6$
(C) $\blacktriangle = 3$ $\star = 5$
(D) $\blacktriangle = 4$ $\star = 5$

35. Mike makes advertising signs. The length is always twice the height.

This picture shows the most popular size.



A customer wants Mike to make a sign with a perimeter of 42 metres.

What are the dimensions of this sign?

(A) 5 metres and 16 metres
(B) 7 metres and 14 metres
(C) 6 metres and 7 metres
(D) 14 metres and 28 metres

36 Raj went shopping.

On Monday he spent half of his money.

On Tuesday he spent one-quarter of his remaining money.

He was left with $18.

How much money did Raj begin with?

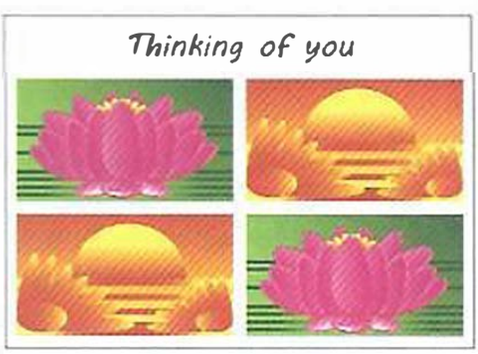
(A) $48
(B) $72
(C) $108
(D) $144

37. Carol is making greeting cards using these images.

Each image is

- placed the same way up
- put in one of four positions
- used twice in her design.

This is one possible greeting card.



How many different greeting cards can Carol make?

(A) 4
(B) 6
(C) 8
(D) 12

38. Four luggage bags were weighed.

Bags	Total mass (kilograms)
bag 1, bag 2, bag 3	70
bag 1, bag 3, bag 4	75
bag 1, bag 2, bag 3, bag 4	100

What was the total mass of bag 1 and bag 3?

(A) 25 kilograms
(B) 30 kilograms
(C) 45 kilograms
(D) 55 kilograms

39. There are 48 boxes of tissues in a carton. Inside each box are 100 tissues.

Each person, in an office of 50 people, uses an average of 3 tissues per day.

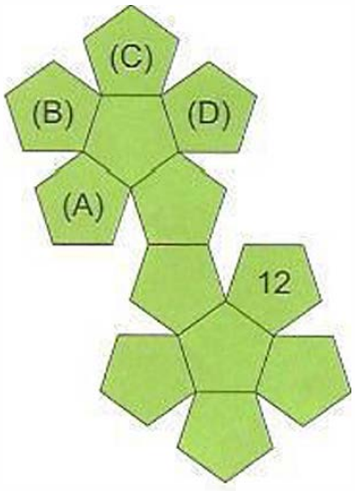
How long would it take these 50 people to use 9 cartons of tissues?

(A) 32 days
(B) 72 days
(C) 210 days
(D) 288 days

40. Lien folded this net to make a 12-sided dice.

He placed it on the table so that 12 was showing on top.

Which face was on the bottom?



ACKNOWLEDGMENT

THE FOLLOWING YEAR LEVELS SHOULD SIT THIS PAPER:

Australia	Year 5
Brunei	Primary 5
Hong Kong	Primary 5
Indian Subcontinent[1]	Class 5
Indonesia	Year 6
Malaysia	Standard 5
Middle East[2]	Class 5
New Zealand/Pacific[3]	Year 6
Singapore	Primary 4
Southern Africa[4]	Grade 5

1 Indian Subcontinent Region: India, Sri Lanka, Nepal, Bhutan and Bangladesh.
2 Middle East Region: United Arab Emirates, Qatar, Kuwait, Saudi Arabia, Egypt, Bahrain, Oman, Turkey, Lebanon, Tunisia, Morocco, Libya, Algeria and Jordan.
3 Pacific Region: Vanuatu, Papua New Guinea and Fiji.
4 Southern Africa Region: South Africa, Botswana, Lesotho, Swaziland, Zimbabwe and Namibia.

PAPER C

UNSW Global AUSTRALIA

Questions

The table below shows all questions. The questions answered incorrectly by XXXXX are shaded. Questions can be sorted by clicking on the table header. Click on the question to view it.

40 questions in total, 31 answered correctly

Question Number	Area Assessed	Description	Correct Answer	XXXXX's Answer	AU % Correct
1	Number & Arithmetic	Count the number of objects matching a given description	A	✓	97
2	Algebra & Patterns	Identify the number missing from a decreasing linear pattern	C	✓	95
3	Number & Arithmetic	Identify the number with the largest digit in the tens column	B	✓	95
4	Space & Geometry	Identify a location from a description	A	✓	95
5	Measures & Units	Read and interpret a tidal chart to solve a time problem	B	✓	78
6	Chance & Data	Use given information to identify a column on a dot plot	A	✓	78
7	Space & Geometry	Identify the shape that is identical to a given shape	D	✓	70
8	Measures & Units	Read the mass on a scale with missing markers	C	✓	60
9	Chance & Data	Determine the event that is certain to occur	B	✓	78
10	Measures & Units	Calculate the area of a composite shape given a grid	D	✓	46
11	Number & Arithmetic	Identify the diagram that represents a mixed number	B	✓	85
12	Space & Geometry	Calculate the scale on a map given the distance between two objects	D	✓	50
13	Number & Arithmetic	Use division to solve a pattern of multiples	A	✓	66
14	Space & Geometry	Identify position relative to starting point after a number of moves	C	A	47

15	Measures & Units	Add a number of time intervals	A	✓	40
16	Number & Arithmetic	Identify the position of a decimal on a number line	C	✓	74
17	Space & Geometry	Recognise a shape after a quarter turn in an anticlockwise direction	A	✓	60
18	Number & Arithmetic	Identify the pair of numbers that differ by a given amount	A	✓	70
19	Chance & Data	Determine the likelihood of an event given certain conditions	B	✓	78
20	Number & Arithmetic	Given one-quarter find the remaining number	C	✓	67
21	Space & Geometry	Identify the solid that is different from the others	B	✓	65
22	Measures & Units	Calculate the amount of time taken to complete a task given certain constraints	B	✓	63
23	Algebra & Patterns	Continue a pattern of double triangular numbers	A	✓	59
24	Space & Geometry	Identify the piece cut from a pattern	B	✓	90
25	Measures & Units	Use information about the date and the Chinese calendar to solve a problem	A	D	45
26	Space & Geometry	Follow directions on a map	C	✓	50
27	Measures & Units	Calculate the number of squares needed to make a quilt	D	B	19
28	Measures & Units	Solve a problem involving duration and time difference	B	D	18
29	Number & Arithmetic	Find all 2-digit numbers divisible by 3 that can be made from 3 given digits	D	✓	31
30	Algebra & Patterns	Calculate a possible value of a symbol in a number sentence given two constraints	D	✓	37
31	Chance & Data	Complete a table to solve a problem	A	✓	24
32	Number & Arithmetic	Calculate the number of time periods then count up by powers of two	C	✓	34

33	Space & Geometry	Identify the path that cuts a twisted piece of wool into 7 pieces	D	C	64
34	Algebra & Patterns	Determine the value of two digits that complete a complex sum	C	A	40
35	Measures & Units	Identify the dimensions of a poster with a given perimeter and constraints	B	✓	42
36	Number & Arithmetic	Given the residual and amounts spent find the original amount of money	A	✓	36
37	Chance & Data	Find the number of possible arrangements	B	C	29
38	Number & Arithmetic	Determine the mass of two objects given combined masses	C	D	43
39	Number & Arithmetic	Calculate the number of cartons needed given certain constraints	D	✓	20
40	Space & Geometry	Determine the position of the opposite face on the net of a dodecahedron	B	C	29