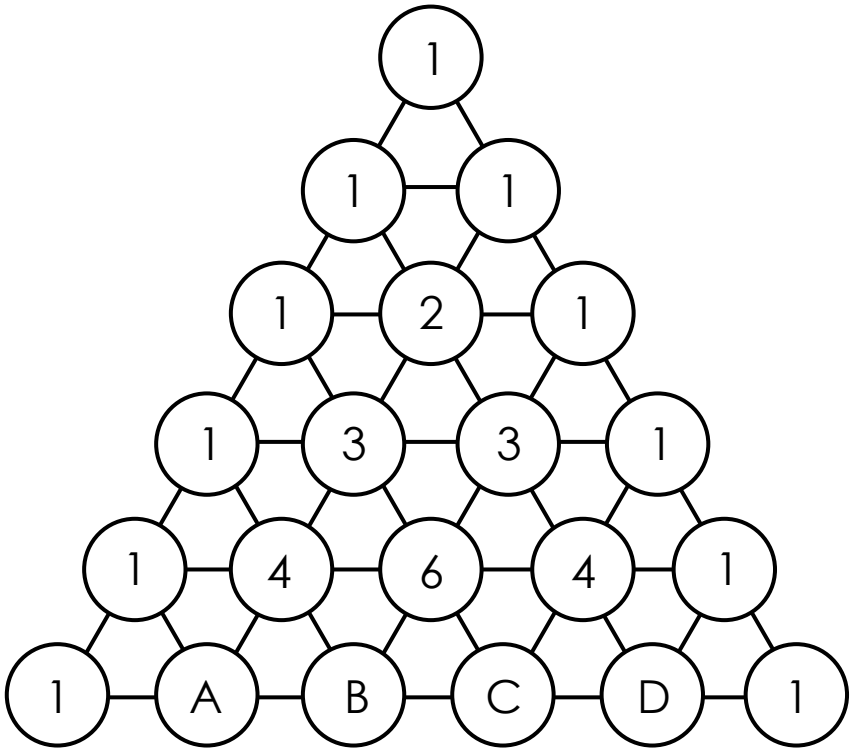
Junior Maths Mastery Challenge Sample

Paper A

Section A

Questions 1 to 5 carry 3 marks each.

1. Study the pattern below.



What is the value of A + B + C + D?

(A) 22 (B) 24 (C) 26

(D) 28 (E) 30

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2. Paul has 10 cookies to put on 3 plates such that each plate has a different number of cookies. How many ways can he put the cookies on the plates if each plate has at least 1 cookie?

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

(D) 10 (E) 12

3. There are 18 people queueing for ice-cream. Emma is 7th in the queue. John is behind Emma. There are 5 people between them. What is John's position from behind?

(A) 4th (B) 5th (C) 6th

(D) 12th (E) 13th

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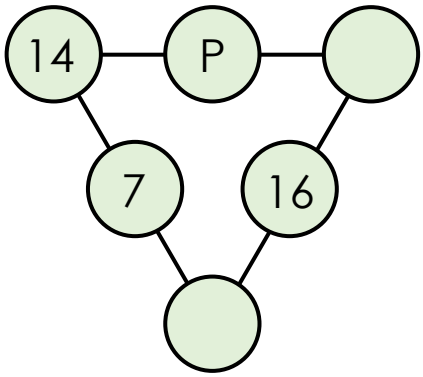
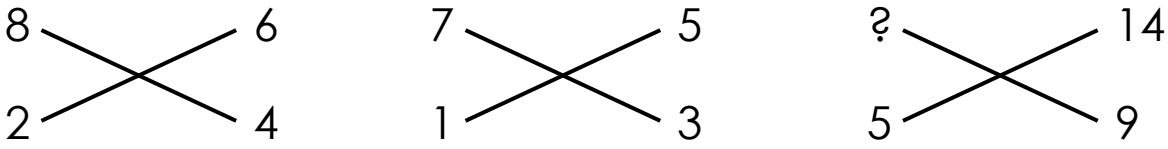
4. The three numbers along each side of the triangle add up to 30.
What number does the letter P stand for?



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

(D) 11 (E) 16

5. Find the missing number in the pattern below.



(A) 15 (B) 16 (C) 17

(D) 18 (E) 20

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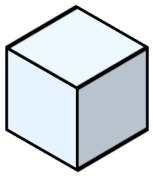
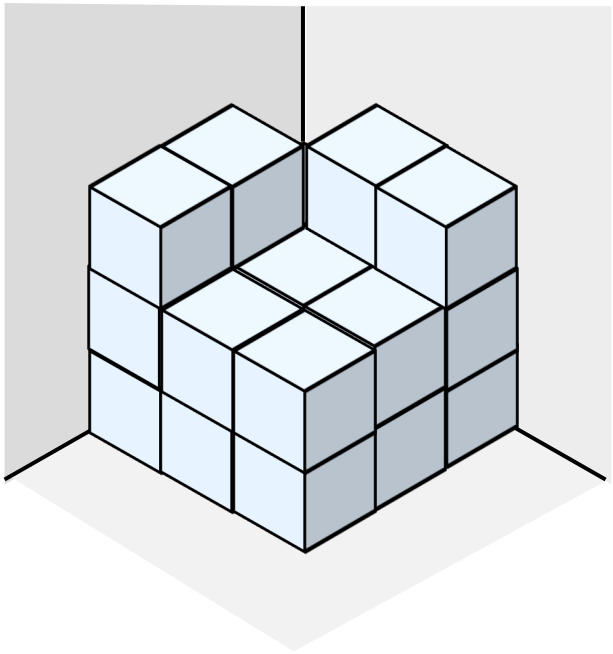
Questions 6 to 10 carry 4 marks each.

6. What is the greatest possible number of  in the figure?



(A) 20 (B) 21 (C) 22

(D) 23 (E) 24

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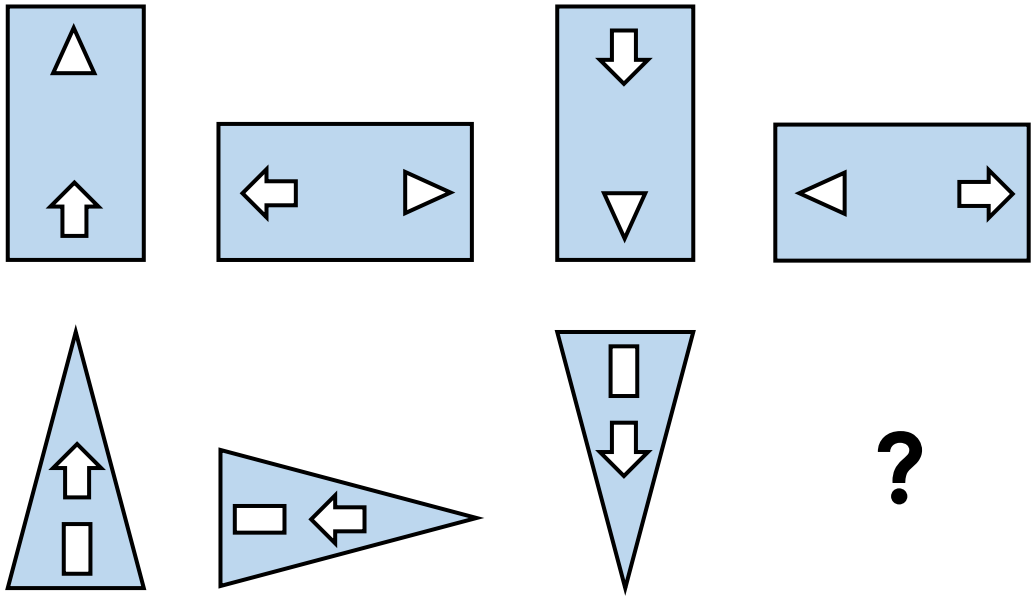
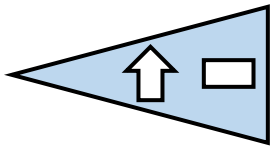
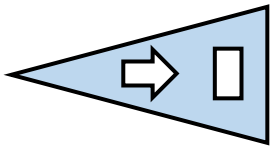
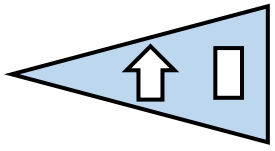
7. Study the figures below.

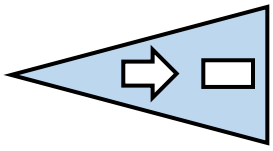


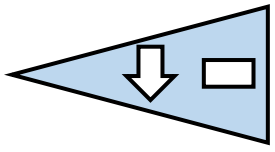
What figure comes next?

(A) 

(B) 

(C) 

(D) 

(E) 

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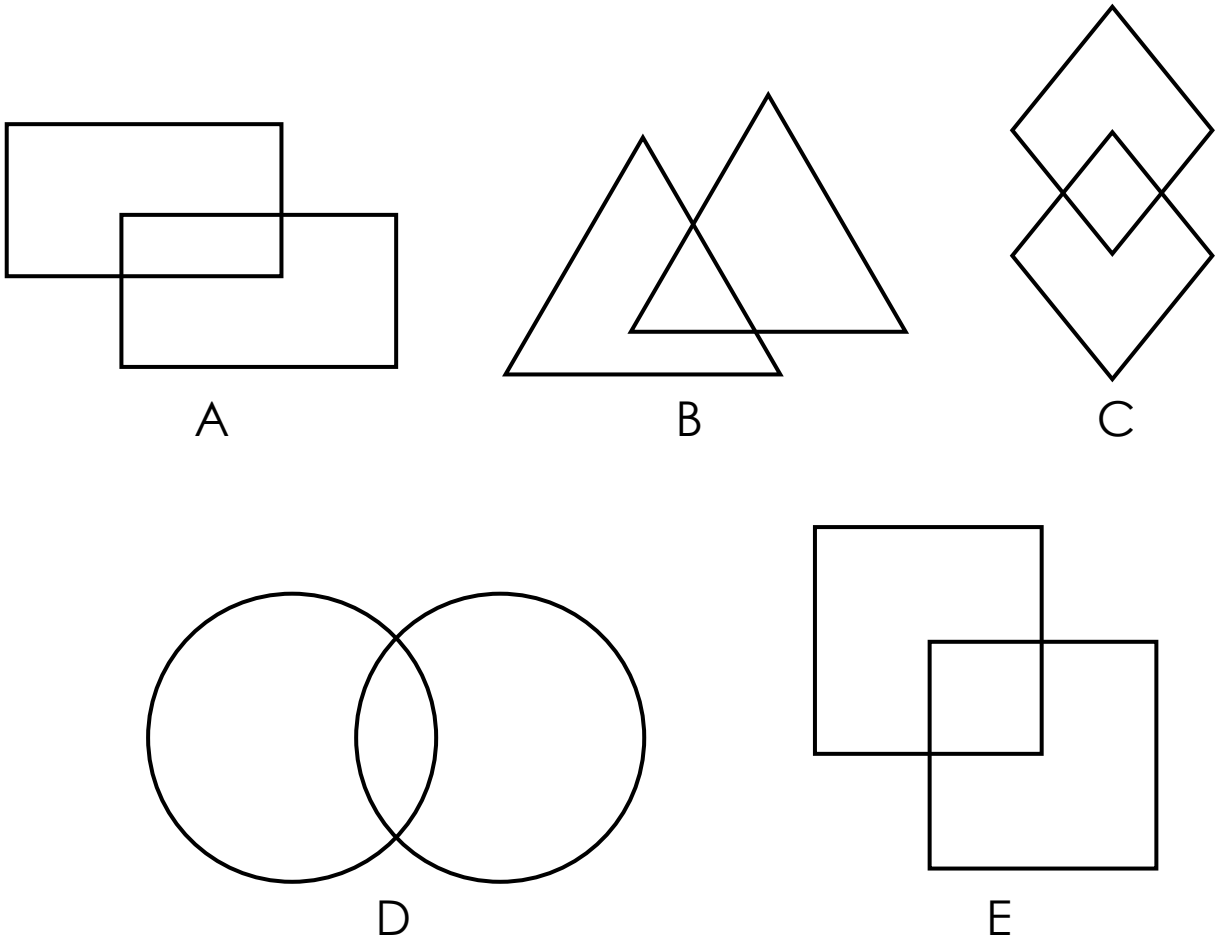
8. Study the figures below.



Which figure is the odd one out?

(A) Figure A (B) Figure B (C) Figure C

(D) Figure D (E) Figure E

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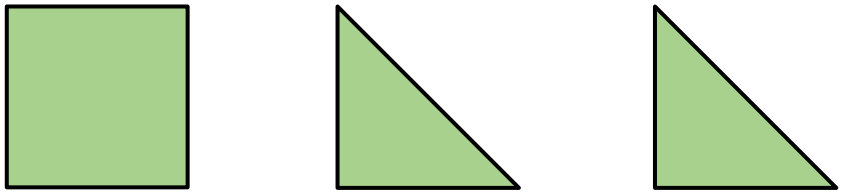
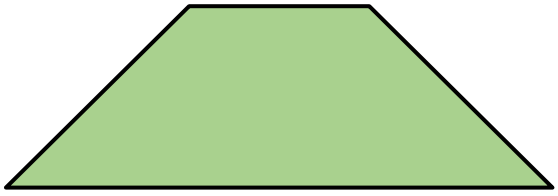
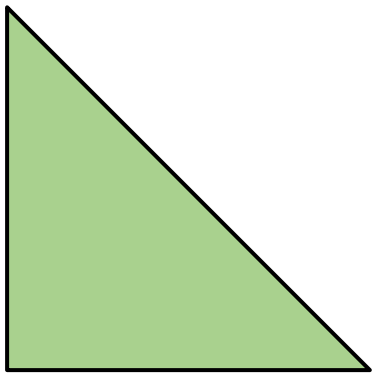
9. Study the shapes below.

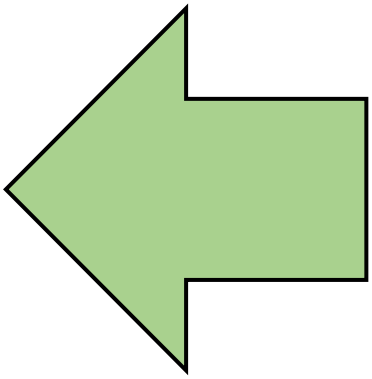


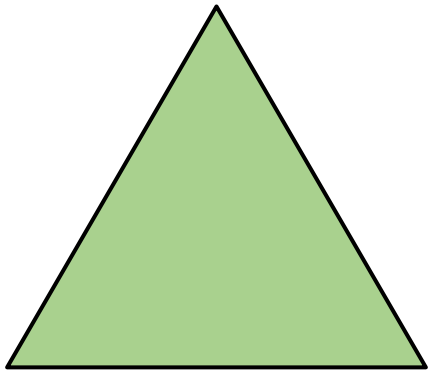
Which of the following **cannot** be formed by the shapes?

(A)

(B) 

(C) 

(D) 

(E) 

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10. Mrs Brown left an apple on the table.
When she came back, the apple had been eaten by one of her children, Joe, Lina or Tom.

Joe said, 'Lina ate the apple.'
Lina said, 'Tom ate the apple.'
Tom said, 'Lina was lying.'

Only one of them lied. Which of the following statements is **true**?

(A) Joe ate the apple.

(B) Lina was lying.

(C) Tom ate the apple.

(D) Tom was lying.

(E) None of the above

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Section B

Questions 11 and 12 carry 6 marks each.

11. Each letter below stands for a different digit.

$$\begin{array}{r} S\ A \\ +\ M\ A \\ \hline A\ M \end{array}$$

Find the greatest possible 2-digit number AM can stand for.

(A) 82 (B) 84 (C) 86

(D) 98 (E) None of the above

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12. Numbers 1 to 100 are arranged in the pattern shown below.

	Column A	Column B	Column C	Column D	...
Row 1	1	10	11	20	...
Row 2	2	9	12	19	...
Row 3	3	8	13	18	...
Row 4	4	7	14	17	...
Row 5	5	6	15	16	...

In which row and column does 58 appear in?

(A) Row 2 Column K

(B) Row 4 Column K

(C) Row 2 Column L

(D) Row 3 Column M

(E) None of the above

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