AUSTRALIAN MATHEMATICS COMPETITION
WARM-UP PAPER
UPPER PRIMARY 9

1. Which number is made up with 1 hundred, 4 tens and 3 ones?

   (A) 413   (B) 143   (C) 341   (D) 1043   (E) 134

2. A pyramid has 12 edges. What is the shape of the base?

   (A) a triangle   (B) a square   (C) a pentagon

   (D) a hexagon   (E) an octagon

3. Ann has a cloth bag with 20 balls, numbered from 1 to 20, in it. She selects a ball from the bag. Which of the following events is the most likely?

   (A) She selects ball number 1.
   (B) She selects an odd-numbered ball.
   (C) She selects a ball with the digit 2 in the number.
   (D) She selects ball 9 or 10.
   (E) She selects ball number 20.

4. Jane is given a large block of chocolate which is made up of square pieces and is 6 pieces wide and 8 pieces long.
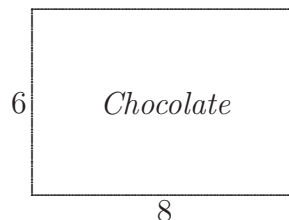
   She eats all the outside pieces. What fraction of the block is left?

   (A) $\dfrac{1}{4}$ (B) $\dfrac{1}{3}$ (C) $\dfrac{1}{2}$ (D) $\dfrac{2}{3}$ (E) $\dfrac{3}{4}$

5. The game of *Four Tofu* is played on a 4×4 grid.

|			
	2		
			1
	1	3	
4			

When completed, each of the numbers 1, 2, 3 and 4 occurs in each row and column of the 4×4 grid and also in each 2×2 corner of the grid. When the grid shown is completed, the sum of the four numbers in the corners of the 4×4 grid is

(A) 13   (B) 11   (C) 15   (D) 12   (E) 10

6. In a survey of 50 students, 42 said that they disliked eating spinach, 37 said that they disliked eating cabbage, 31 students said they disliked both spinach and cabbage. How many students liked eating both spinach and cabbage?

(A) 6   (B) 5   (C) 4   (D) 3   (E) 2

7. Mrs Green witnessed a bank robbery and noticed the getaway car's numberplate contained the letters M, X and P followed by the digits 1, 2 and 3, but could not remember the order in which they occurred. What is the maximum number of combinations which the police would need to search through?

(A) 6   (B) 12   (C) 36   (D) 54   (E) 81

8. A square piece of paper is folded along its centre line and then folded again as shown.
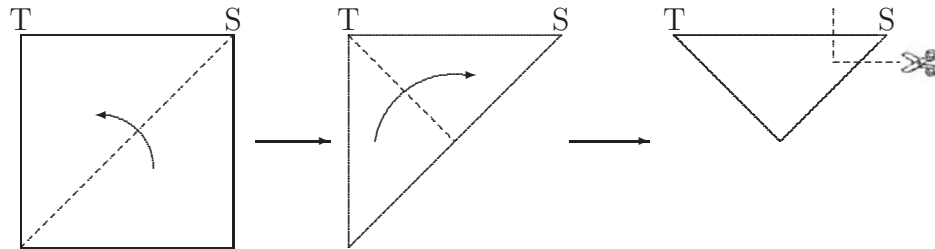
A cut is made along the dotted line in the third diagram. Which of the following could be the shape of the paper when it is unfolded?

(A)   (B)   (C)

(D)   (E)
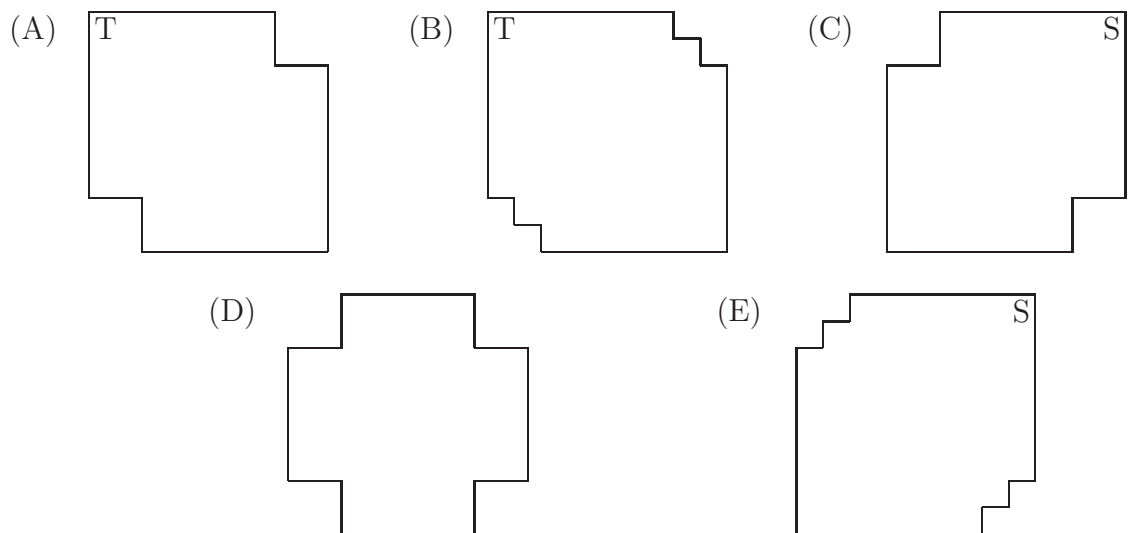
9. Ace, Bea, Cec, Dee, Eve, Fie and Geo are 1, 2, 3, 4, 5, 6 and 7 years old, in some order. Dee is three times as old as Bea. Cec is four years older than Eve. Fie is older than Ace and Ace is older than Geo, but the combined ages of Ace and Geo is greater than the age of Fie. The age of Ace is

(A) 2   (B) 3   (C) 4   (D) 5   (E) 6

10. A teacher provides four special lessons, one each in Maths, Music, English and Science, for some of the children in her class. For the students in these special lessons:

- there are exactly 3 children in each lesson.
- each pair of students attends at least one special lesson together.

What is the largest number of students who can attend these special lessons?