



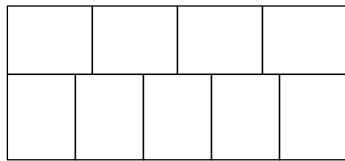
5. A 4 by 4 'antimagic square' is an arrangement of the numbers 1 to 16 inclusive in a square, so that the totals of each of the four rows and four columns and two main diagonals are ten consecutive numbers in some order. The diagram shows an incomplete antimagic square.

When it is completed, what number will replace the asterisk?

4	5	7	14
6	13	3	*
11	12	9	
10			

- A 1                      B 2                      C 8                      D 15                      E 16
6. The diagram shows a large rectangle composed of nine identical smaller rectangles. Both the length and breadth of each of these smaller rectangles are whole numbers of centimetres.

Which of the following could be the area of the large rectangle?



- A  $450 \text{ cm}^2$       B  $630 \text{ cm}^2$       C  $1260 \text{ cm}^2$       D  $1440 \text{ cm}^2$       E  $1620 \text{ cm}^2$
7. The width : height ratio of television screens is changing from the traditional 4 : 3 to the widescreen 16 : 9.

If a traditional screen and a widescreen have the same area, then what is the ratio widescreen width : traditional width? (Assume that television screens are rectangles.)

- A  $2:\sqrt{3}$       B 3:2      C  $3:\sqrt{2}$       D 4:3      E none of these
8. In the diagram below, how many squares, of any size, are there whose entries add up to an even total?

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

- A 12                      B 20                      C 32                      D 36                      E 45