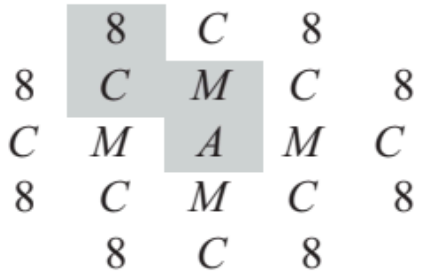
1 / 11

2017 Q15

15. In the arrangement of letters and numerals below, by how many different paths can one spell $AMC8$? Beginning at the A in the middle, a path allows only moves from one letter to an adjacent (above, below, left, or right, but not diagonal) letter. One example of such a path is traced in the picture.



(A) 8 **(B)** 9 **(C)** 12 **(D)** 24 **(E)** 36

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1991 Q16

16. The 16 squares on a piece of paper are numbered as shown in the diagram. While lying on a table, the paper is folded in half four times in the following sequence:
(1) fold the top half over the bottom half
(2) fold the bottom half over the top half
(3) fold the right half over the left half
(4) fold the left half over the right half.
Which numbered square is on top after step 4?

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

(A) 1 **(B)** 9 **(C)** 10 **(D)** 14 **(E)** 16

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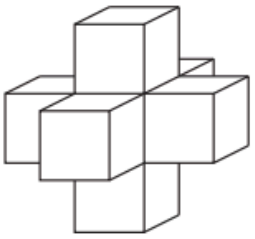
2008 Q16

16. A shape is created by joining seven unit cubes, as shown. What is the ratio of the volume in cubic units to the surface area in square units?



(A) 1 : 6 **(B)** 7 : 36 **(C)** 1 : 5 **(D)** 7 : 30 **(E)** 6 : 25

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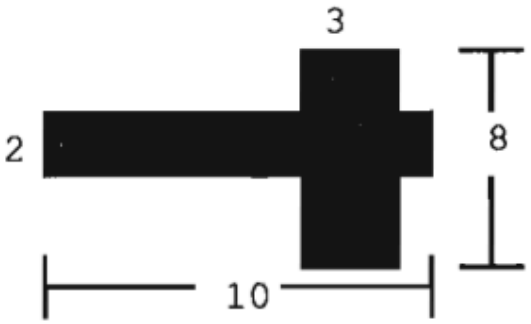
1988 Q17

17. The shaded area formed by the two intersecting perpendicular rectangles, in square units, is

A) 23 B) 38 C) 44 D) 46

E) unable to be determined from the information given



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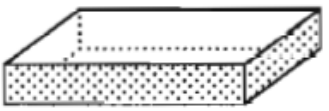
1993 Q17

17. Square corners, 5 units on a side, are removed from a 20 unit by 30 unit rectangular sheet of cardboard. The sides are then folded to form an open box. The surface area, in square units, of the interior of the box is



(A) 300 **(B)** 500 **(C)** 550 **(D)** 600 **(E)** 1000

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2012 Q17

17. A square with an integer side length is cut into 10 squares, all of which have integer side length and at least 8 of which have area 1. What is the smallest possible value of the length of the side of the original square?

(A) 3 **(B)** 4 **(C)** 5 **(D)** 6 **(E)** 7

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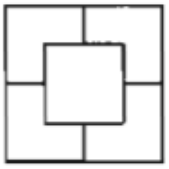
1995 Q18

18. **The area of each of the four congruent L-shaped regions of this 100-inch by 100-inch square is 3/16 of the total area. How many inches long is the side of the center square?**



(A) 25 **(B)** 44 **(C)** 50 **(D)** 62 **(E)** 75

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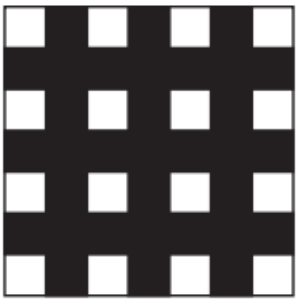
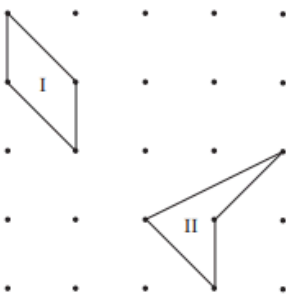
2009 Q18



18. The diagram represents a 7-foot-by-7-foot floor that is tiled with 1-square-foot black tiles and white tiles. Notice that the corners have white tiles. If a 15-foot-by-15-foot floor is to be tiled in the same manner, how many white tiles will be needed?

(A) 49 (B) 57 (C) 64 (D) 96 (E) 126

2000 Q18



18. Consider these two geoboard quadrilaterals. Which of the following statements is true?

(A) The area of quadrilateral I is more than the area of quadrilateral II.

(B) The area of quadrilateral I is less than the area of quadrilateral II.

(C) The quadrilaterals have the same area and the same perimeter.

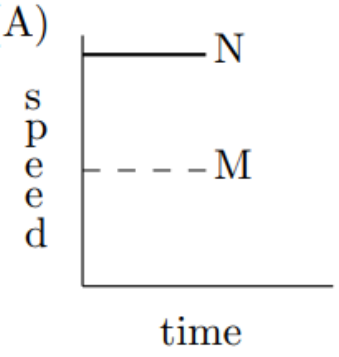
(D) The quadrilaterals have the same area, but the perimeter of I is more than the perimeter of II.

(E) The quadrilaterals have the same area, but the perimeter of I is less than the perimeter of II.

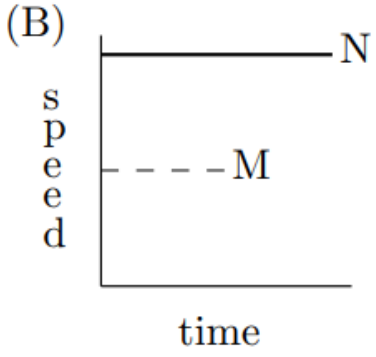
2001 Q19

19. Car M traveled at a constant speed for a given time. This is shown by the dashed line. Car N traveled at twice the speed for the same distance. If Car N's speed and time are shown as solid line, which graph illustrates this?

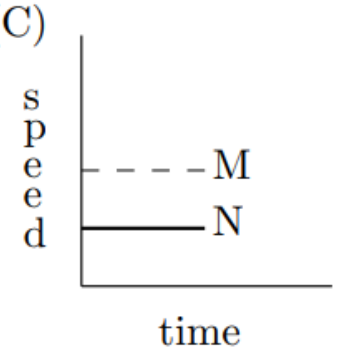
(A)



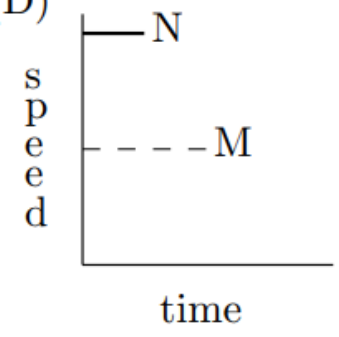
(B)



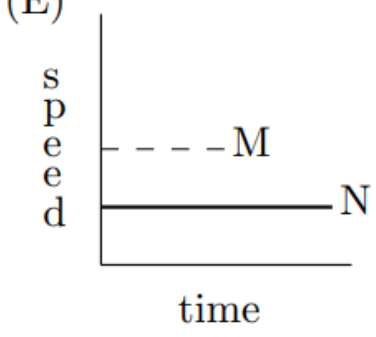
(C)



(D)



(E)



2009 Q20

20. How many non-congruent triangles have vertices at three of the eight points in the array shown below?

(A) 5 **(B)** 6 **(C)** 7 **(D)** 8 **(E)** 9