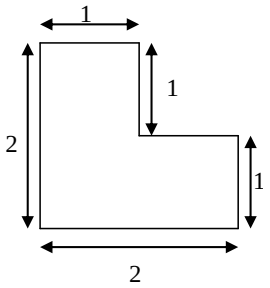
1999 FG4.1

若以 a 塊 L 形的瓷磚（圖二），不重疊地拼出一幅與之相似，但面積較大的圖形，求 a 的最小可能值。

If a tiles of L-shape are used to form a larger similar figure (figure 2) without overlapping,
find the least possible value of a .

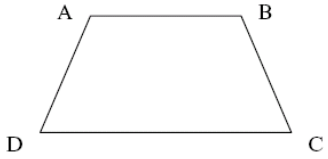


2001 FI3.1

$ABCD$ 是一個梯形，其中 $\angle ADC = \angle BCD = 60°$ 及 $AB = BC = AD = \frac{1}{2} CD$。

若把這梯形分割為 P 等份 $(P > 1)$，使其分割所得的每份與梯形 $ABCD$ 相似。求 P 的最小值。

$ABCD$ is a trapezium such that $\angle ADC = \angle BCD = 60°$ and $AB = BC = AD = \frac{1}{2} CD$. If this trapezium is divided into P equal portions ($P > 1$) and each portion is similar to trapezium $ABCD$ itself, find the minimum value of P .



2004 FI1.2

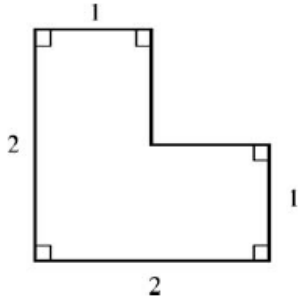
若 6 個斜邊是 $\sqrt{2}$ cm 的等腰直角三角形能拼成一個周界是 b cm 的梯形，求 b 的最小可能的值。(答案用根號表示)

If 6 copies of a right-angled isosceles triangle with hypotenuse $\sqrt{2}$ cm can be assembled to form a trapezium with perimeter equal to b cm,
find the least possible value of b. (give the answer in surd form).

2004 FGS.3

圖一所示為一瓷磚圖形。若最少可用 C 塊該類瓷磚便能鋪滿一正方形，求 C 的值。

Figure 1 shows a tile. If C is the minimum number of tiles required to tile a square, find the value of C .



2008 FG4.1

利用相同的正 m 邊形能密鋪平面，求所有可能 m 值的總和。

Regular tessellation is formed by identical regular m-polygons for some fixed m .
Find the sum of all possible values of m .

2018 FI4.4

若某長方形的面積為 d cm^2，它能被邊長為 8 cm 的正方形階磚密鋪，若該長方形亦能被闊度為 12 cm、長度為 7 cm 的長方形階磚密鋪，求 d 最小值。

Let d cm^2 be the area of a rectangle that can be tessellated by square tiles with sides length of 8 cm. If the rectangle can also be tessellated by rectangular tiles with width of 12 cm and length of 7 cm, determine the least value of d .

Answers

1999 FG4.1 4	2001 FI3.1 4	2004 FI1.2 $2+4\sqrt{2}$	2004 FGS.3 12	2008 FG4.1 13
2018 FI4.4 1344				