



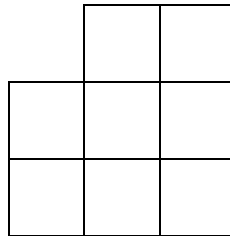
香港國際數學競賽模擬試題（所有組別）

HKIMO Sample Questions (ALL Groups)

幼稚園組/ Kindergarten Group

1. 請問下圖中有多少個正方形？

How many squares are there?



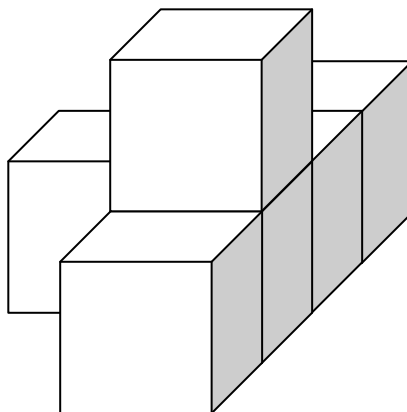
2. 填上適當的數字。

Fill in a suitable number.

$$3 + 4 = \boxed{} + 2$$

3. 下圖共有多少個正方體？

How many cubes are there?





小學初年級組（小一至小二） / Junior Primary Group (Primary 1 to 2)

1. 填上適當的數字。

Fill in suitable number.

$$1 \quad 4 \quad + \quad \boxed{} \boxed{} \quad = \quad 6 \quad 7$$

2. 根據下圖規律，求下一幅圖。

According to the following pattern, find the next figure.



3. 小冰有糖 7 顆，小權有糖 17 顆，請問小權要給多少顆糖小冰，才能使他們有同樣多的糖？

Ice has 7 candies and Kuen has 17 candies. How many candies are required for Kuen to give to Ice so that they have the same number of candies?

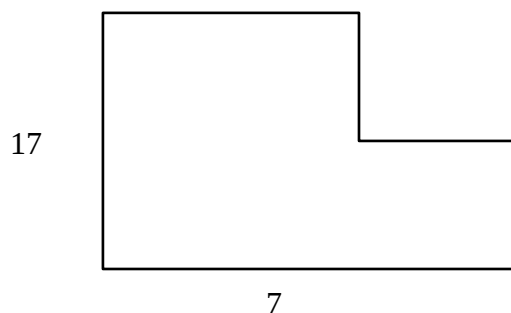
小學中年級組（小三至小四） / Middle Primary Group (Primary 3 to 4)

1. 求 $1+2+3+4+\dots+28+29+30$ 的值。

Find the value of $1+2+3+4+\dots+28+29+30$.

2. 求下圖的周界。

Find the perimeter of the following figure.



3. 小權與小冰共有 57 枝鉛筆，小權比小冰多 9 枝，請問小冰有多少枝鉛筆？

Kuen and Ice have 57 pencils altogether. Kuen has 9 more than Ice. How many pencils does Ice have?



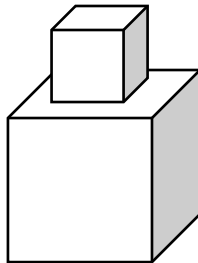
小學高年級組（小五至小六） / Senior Primary Group (Primary 5 to 6)

1. 求 $111,111 \times 111,111$ 的值。

Find the value of $111,111 \times 111,111$.

2. 下圖的立體由兩個正方體組成。大正方體的棱長是 6 厘米，頂上的小正方體棱長是 4 厘米。求該立體的表面積。

The following figure is formed by 2 cubes. The edge of the large cube is 6cm. The edge of the small cube is 4cm. Find the surface area of the following figure.



3. 用 1、2、3 和 5 可以組成多少個沒有重覆數字的三位數？

By using 1, 2, 3 & 5, how many 3-digit numbers can be formed without repeated numbers?

中學初年級組（中一至中二） / Junior Secondary Group (Secondary 1 to 2)

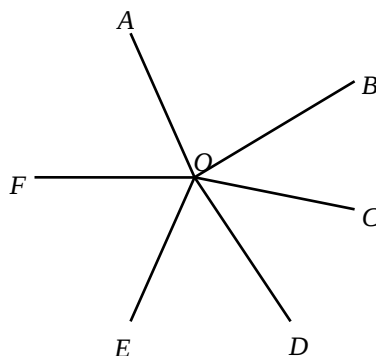
1. 求 $3.\dot{5}\dot{3} + 2.\dot{0}\dot{1}\dot{8}$ 的值，並以循環小數表示答案。

Find the value of $3.\dot{5}\dot{3} + 2.\dot{0}\dot{1}\dot{8}$ and show your answer in recurring decimals.

2. 求 2017 的因子數目。

Find the number of all positive factors of 2017.

3. 參考附圖， $\angle AOB = 80^\circ$ ， $\angle BOC = \angle COD$ ， FO 平分 $\angle AOE$ ， $\angle COF = 170^\circ$ 。求 $\angle DOE$ 的值。
In the figure, $\angle AOB = 80^\circ$ ， $\angle BOC = \angle COD$ ， FO bisects $\angle AOE$ ， $\angle COF = 170^\circ$. Find the size of $\angle DOE$.





中學高年級組（中三級及高中組） / Senior Secondary Group (Secondary 3 to Senior Secondary)

1. 若 $\sin A + \cos A = \frac{1}{3}$ ，求 $\sin A \cos A$ 的值。

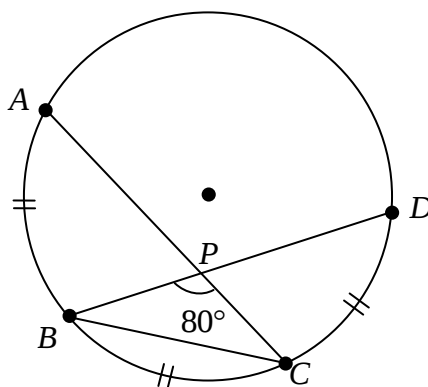
If $\sin A + \cos A = \frac{1}{3}$, find the value of $\sin A \cos A$.

2. 若 $x^2 + 13x + 40 = 0$ ，求實數 x 的最大值。

If $x^2 + 13x + 40 = 0$, find the largest real possible value of x .

3. A, B, C, D 在圓形上，及 $AB = BC = CD$ ， AC 與 BD 相交於 P ，如果 $\angle BPC = 80^\circ$ ，求 $\angle ACD$ 的值。

A, B, C, D are points on the circle, and $AB = BC = CD$, while AC and BD intersect at P . If $\angle BPC = 80^\circ$, find $\angle ACD$.





答案/ Answer

<u>幼稚園組/ Kindergarten Group</u>	<u>小學組/ Primary Group</u>	<u>中學組/ Secondary Group</u>
1. 11 2. 5 3. 6	<u>小學初年級組/</u>	<u>中學初年級組/</u>
	<u>Junior Primary Group</u>	<u>Junior Secondary Group</u>
	1. 53	1. $5.\dot{5}5337\dot{1}$
	2. 	2. 2
	3. 5	3. 60°
	<u>小學中年級組/</u>	<u>中學高年級組</u>
	<u>Middle Primary Group</u>	<u>Senior Secondary Group</u>
	1. 465	1. $-\frac{4}{9}$
	2. 48	2. -5
	3. 24	3. 30°
	<u>小學高年級組/</u>	
	<u>Senior Primary Group</u>	
	1. 12,345,654,321	
	2. 280	
	3. 24	