OBLONG NUMBERS ARE THE PRODUCT OF TWO CONSECUTIVE WHOLE NUMBERS

for example:

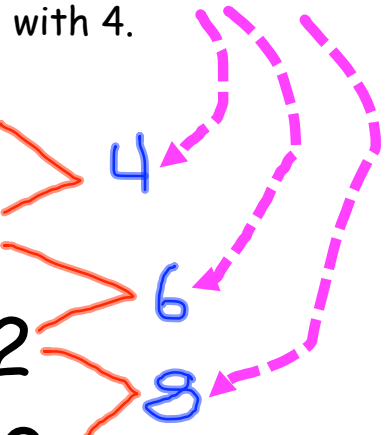
$1 \times 2 = 2$

$2 \times 3 = 6$

$3 \times 4 = 12$

$4 \times 5 = 20$

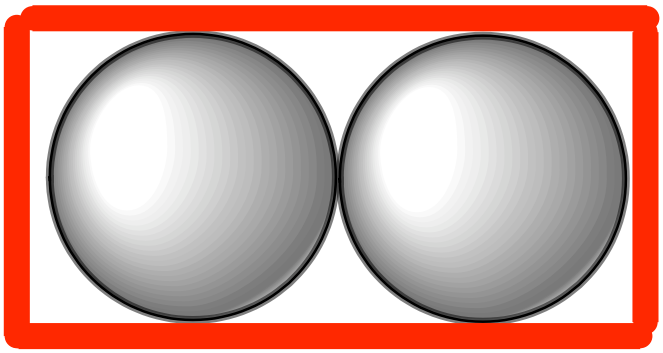
Notice how the difference of consecutive oblong numbers are consecutive even numbers starting with 4.



let's say that below we have two spheres that represent an oblong rectangle of ONE by TWO.

2

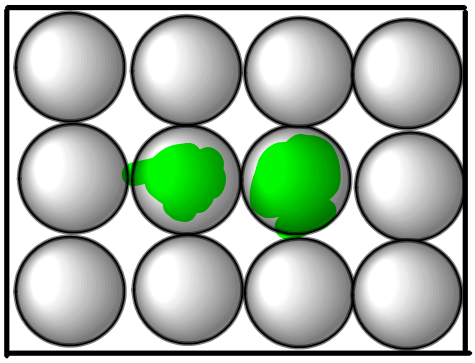
$1 \times 2 = 2 \text{ units}^2$



1

what would happen if you added spheres around the entire oblong rectangle? How many spheres would you have and what would be the dimensions of that oblong rectangle?

$3 \times 4 = 12 \text{ u}^2$



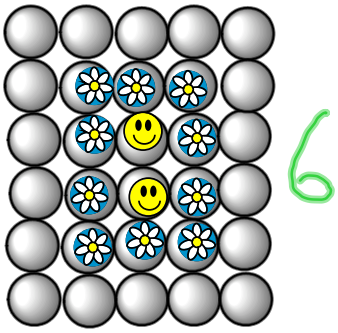
3

4

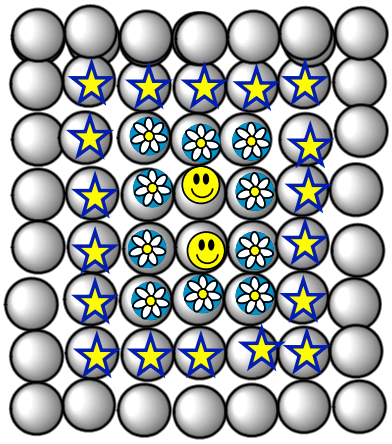
Now, let's keep going and see if we can find this sequence of oblong rectangular numbers and the products they represent.

If you are up for the challenge, now build pyramids from these oblong rectangular bases and count how many spheres are in each oblong rectangular pyramid.

If you see a pattern, see how high you can go and then let's build one.



$5 \times 6 = 30 u^2$



$7 \times 8 = 56$

Dimensions of Oblong Rectangle of Spheres **(*Oblong numbers* are the product of any consecutive numbers)**	**Number of Spheres in Oblong Rectangle**	**Number of Spheres in Oblong Rectangular Pyramid**	**Calculations for Number of Spheres in Oblong Rectangular Pyramid by adding consecutive oblong numbers**
1x2	2	2	1x2
3x4	12	20	(1x2)+(3x4)
5x6			
7x8			
9x10			
11x12			
13x14			
15x16			
17x18			
19x20			

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1x2	2	2	1x2
3x4	12	20	(1x2)+(2x3)+(3x4)
5x6	30	70	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)
7x8	56	168	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)
9x10	90	330	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)+(8x9)+(9x10)
11x12	132	572	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)+(8x9)+(9x10) +(10x11)+(11x12)
13x14	182	898	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)+(8x9)+(9x10)+(10x11)+(11x12)+(12x13)+(13x14)
15x16	240	1348	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)+(8x9)+(9x10)+(10x11)+(11x12)+(12x13)+(13x14)+(14x15)+(15x16)
17x18	306	1926	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)+(8x9)+(9x10)+(10x11)+(11x12)+(12x13)+(13x14)+(14x15)+(15x16)+(16x17)+(17x18)
19x20	380	2648	(1x2)+(2x3)+(3x4)+(4x5)+(5x6)+(6x7)+(7x8)+(8x9)+(9x10)+(10x11)+(11x12)+(12x13)+(13x14)+(14x15)+(15x16)+(16x17)+(17x18)+(18x19)+(19x20)