6. **Which expression represents the sum of the first n multiples of 8?**

A. $8n = 8 \cdot (2) = 16$ NO

B. $8n^2 = 8(2)^2 = 32$ NO

C. $4n^2 + 4n = 4(2)^2 + 4(2) = 24$ yes

D. $8n^2 + 8n$

Sum of first 2 multiples: $s = 8 + 16 = 24$

so use $n=2$ and see which equation $= 24$

7. **Alex started a business making bracelets. She sold 30 bracelets the first month. Her goal is to sell 6 more bracelets each month than she sold the previous month.**

If Alex meets her goal, what is the total number of bracelets she will sell in the first 12 months?

month 1 2 3 4 5 6 7 8 9 10 11 12

30 + 36 + 42 + 48 + 54 + 60 + 66 + 72 + 78 + 84 + 90 + 96 $\Sigma = 756$

A. 378

B. 426

C. 498

D. 756

Start with 30 add 6 each month then sum up

8. **Which function is equivalent to $f(x) = 2|x+2|+1$?**

A. $f(x) = \begin{cases} 2x+5, & \text{if } x \geq -2 \\ -2x-3, & \text{if } x < -2 \end{cases}$

B. $f(x) = \begin{cases} 2x+5, & \text{if } x \geq 1 \\ -2x-3, & \text{if } x < 1 \end{cases}$

C. $f(x) = \begin{cases} -2x-5, & \text{if } x \geq -2 \\ 2x+3, & \text{if } x < -2 \end{cases}$

D. $f(x) = \begin{cases} -2x-5, & \text{if } x \geq 1 \\ 2x+3, & \text{if } x < 1 \end{cases}$

create 2 equations (+) and (−)

$+2(x+2)+1$

$2x+4+1 = 2x+5$

and

$-2(x+2)+1$

$-2x-4+1 = -2x-3$

find boundary

remember boundary = h

$h = -2$

so

$2x+5, x \geq -2$

$-2x-3, x < -2$