

Remember to use **PEMDAS**

NAME _____

Why Did Simeon Wrench Sleep Under His Car?

Simplify or evaluate each expression below, as directed. Find your answer at the bottom of the page and write the letter of that exercise below it.



NO CALCULATORS!

SIMPLIFY:

- (E) $8 + (9 \cdot 3)$
- (I) $(8 + 9) \cdot 3$
- (A) $14(10 \div 2)$
- (Y) $(12 \cdot 3) - (9 \cdot 2)$
- (T) $(4 \cdot 10) + (75 \div 25)$
- (E) $\frac{80 - 3}{8 + 3}$
- (P) $13 + [2(9 - 6)]$

SIMPLIFY:

- (A) $\frac{12 + 8}{12 - 2} + \frac{8}{2}$
- (O) $3[5(48 \div 12)]$
- (T) $\frac{50 - [3(7 - 1)]}{2}$
- (H) $[4(30 - 5)] \div \frac{10}{2}$
- (E) $\frac{12(15 \div 3)}{(20 \cdot 5) - (20 \cdot 2)}$
- (D) $5 + [4 \cdot 3(2 + 1)]$
- (W) $\left[\frac{6 \cdot 2(8 - 3)}{11 + 4} \right] \cdot 6$

EVALUATE if

- $a = 1$ $m = 3$ $x = 6$
- $b = 2$ $n = 10$ $y = 0$

- (K) $\frac{7m + 1}{b}$
- (N) $(3n - 2m)(a + b)$
- (L) $\frac{2(n + x)}{n - x}$
- (U) $x[b(m + 1) - 3]$
- (W) $\frac{mn - 5y}{a + b}$
- (O) $(n - a)(n - b)(n - m)(n - n)$

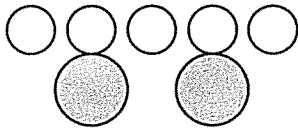
20	7	24	6	72	16	35	41	43	60	10	70	11	1	30	19	0	51	8	18
----	---	----	---	----	----	----	----	----	----	----	----	----	---	----	----	---	----	---	----

Festival Lights

This problem gives you the chance to:

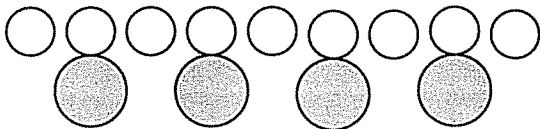
- describe patterns and relations

There is to be a festival in Nathan's city. White and gold lights will be hung in the streets. The lights come in sections. The first section looks like this.



Here there are 5 white lights and 2 gold lights.

All the next sections have just 4 white lights and 2 gold ones



This is how it looks with two sections.
There are now 9 white lights and 4 gold lights.

1. Draw the lights when there are 3 sections joined together.

2. Complete the chart to show how many white and gold lights there are when the third and fourth sections are joined.

Section number	1	2	3	4
Number of white lights	5	9		
Number of gold lights	2	4		

3. When there are 10 sections how many gold lights will there be? _____
Explain how you know.

4. When there are 25 white lights how many sections will there be? _____
Show how you figured this out.

5. When there are 18 gold lights how many white lights will there be? _____
Show how you figured this out.

6. Nathan says that when there are 100 sections there will be 201 gold lights and 400 white lights. Explain how you know he is wrong.
