

Chapter 4 Task

Design a Beaded Necklace

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MAKE A PLAN

1 Understand the Problem

I know Rana designed her necklace using this pattern: top row (green) starts at 1 and increases by 1 each time, middle row (purple) starts at 1 and increases by 1 each time, bottom row starts at 3 and increases by 1 each time. The top row goes up to 10 and then back down to 1. I need to know how many purple and green beads Rana will need.

Task Checklist

- Did you make a plan?
- Did you include diagrams, a table of values, and scatter plots?
- Did you show all your steps?
- Did you use appropriate math vocabulary?

2 Make a Plan

I will make a table of values to show the pattern. Each line of the table of values will show a full section. I will then add all the beads in each column. Then I will add together the totals of the 2 green columns to find the total number of green beads. The middle column will tell me the total number of purple beads.

3 Carry out the Plan

See table of values for A.

4 Look Back

I checked my pattern and calculations to make sure I didn't make any errors.

Chapter Task

A.

Top Row (green)	Middle Row (purple)	Bottom Row (green)
1	1	3
2	2	4
3	3	5
4	4	6
5	5	7
6	6	8
7	7	9
8	8	10
9	9	11
10	10	12
9	9	11
8	8	10
7	7	9
6	6	8
5	5	7
4	4	6
3	3	5
2	2	4
1	1	3
TOTAL:	100	138

Green beads : $100 + 138 = 238$

Purple beads : 100

B. There are 7 white beads in each section. From A, I know that there are 19 sections in total.

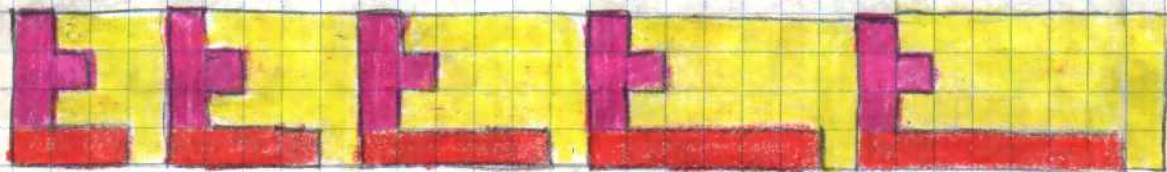
So, $7 \times 19 = 133$

I need to add one white section because Rana wants to begin and end her shape a white section.

So $133 + 7 = 140$

There are 140 white beads in the necklace.

C. Each purple section has 4 beads. The red section grows by 1 each time. The yellow section grows by 3 each time.



The red section grows

to 7 beads and then goes back down by 1 each time to 3 beads.

	Purple Beads	Red Beads	Yellow Beads
	4	3	9
	4	4	12
	4	5	15
	4	6	18
	4	7	21
	4	6	18
	4	5	15
	4	4	12
	4	3	9
TOTAL	36	43	129