	Patchwork	Rubric

		Points	Section points
1.	Correctly completes the table: 1 point triangles , 2 points squares 	1 2	

Size (n)	Number of triangles (t)	Number of squares (s)
1	**4**	**0**
2	**8**	**4**
3	**12**	**12**
4	**16**	**24**
5	**20**	**40**

			3
2.	Verbal rule: The number of triangles is four times the size of the cushion. **or** An algebraic rule: $t = 4n$ Explanation: Each cushion has four edges: each edge has the same number of triangles as the size. **or** From the table, as the size of the cushion increases by 1' the number of t riangles increases by 4.	1 **or** 2 1 **or** 1	3
3.	A stepwise verbal rule: The number of squares increases by 4, then 8, then 12, then 16 ....: increasing multiples of 4. **or** The number of squares + the number of triangles for any size is equal to the number of squares for the next size. e.g.: $16 + 24 = 40$ **or** An algebraic rule: $s = 2n(n - 1)$ or equivalent algebraic rule. Explanations relating to the cushion design, such as the following. Stepwise rule: Each triangle of one size becomes a square in the next size. **or** Algebraic rule: Each cushion has four sections: if we put two sections together, we get two rectangles, size n by $(n - 1)$.	1 **or** 1 **or** 2 1	3
4.	Stepwise rule: continues sequence to find that when $s = 180$, $t = \mathbf{40}$ **or** Algebraic rule: finds that when $s = 180$, $n = 10$: when $n = 10$, $t = \mathbf{40.}$	1 **or** 1	1
	Total Points		**10**