

Amazing Rewards Warm Up

In a far of kingdom a king seeks to reward a peasant for saving his child. The peasant asks that the king put one ruba (the money they use is called rubas, much like a penny) on the first square of a chessboard and then two on the second square and then four on the third and continue to double the amount.

The king considers this and then offers the following reward plan. He would put 20 rubas on the first square of a chessboard, then 25 on the second square, then 30 on the third square, and so on, increasing the number of rubas by 5 for each square, until all 64 squares were covered.

Square #	Number of Rubas	
	Plan 1	Plan 2
1	1	20
2	2	25
3	4	30
4	8	35
5	16	40
6	32	45

1. Complete the table showing the number of rubas on squares 7, 8, 9, and 10 for both plans.
2. Write the recursive function to describe the pattern in the number of rubas between consecutive squares.
3. Write the explicit function to show the relationship between square number and the number of rubas for each plan.
4. How many rubas would there be on square 20 for each plan?
5. Square 30?
6. Write a sentence to convince the peasant of which plan to choose.