

On Your Own

1. Axel builds rail fences. For one style of fence, each section uses 3 vertical fence posts and 6 horizontal rails. How many rails does he need for a fence that has 27 posts?

1 Section



2 Sections



3 Sections



First, think about what the problem is asking and what you know. As each section of fence is added, how does the number of posts and the number of rails change?

Next, make a table and look for a pattern. Use what you know about 1, 2, and 3 sections. Write a rule for the number of posts and rails needed for 9 sections of fence.

Possible rule for posts: _____

Possible rule for rails: _____

Finally, use the rule to solve the problem. _____

2. What if another style of rail fencing has 6 rails between each pair of posts? How many rails are needed for 27 posts?



Number of Sections	1	2	3	...	9
Number of Posts	3	6	9	...	27
Number of Rails	12	24	36	...	

Possible rule: _____

Solution: _____

Problem Solving • Applications

3. **MTR** Etenia works as a limousine driver. She earns \$50 for every 2-hour shift that she works. How much does Etenia earn in one week if she works 40 hours per week? Write a rule and complete the table.

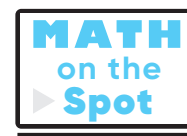
Shift	1	2	3	...	20
Hours Worked	2	4	6	...	40
Jane's Pay (\$)	50	100	150	...	

Possible rule: _____

The amount Etenia earns working 40 hours is _____

4. Rosa plays games at a fair. She can buy 8 game tokens for \$1. Each game costs 2 tokens. How many games can she play with 120 tokens? Write a rule and complete the table.

Cost (\$)	1	2	3	4	...	15
Tokens	8	16	24	32	...	120
Games	4	8	12	16	...	



Possible rule: _____

Number of games played with 120 tokens is _____

5. Janelle is making snacks for her classmates. There are two cups of raisins in one batch. For every 2 cups of raisins, Janelle adds 4 cups of oats. How many cups of oats will she need if she has 10 cups of raisins? Draw a table and write a possible rule.

Possible rule: _____

The number of cups of oats Janelle will need is _____

6. Look for a pattern.

Figure 1



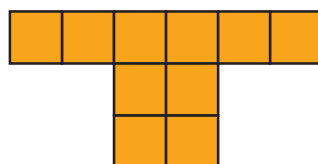
2 squares

Figure 2



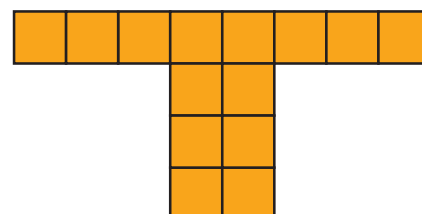
6 squares

Figure 3



10 squares

Figure 4



14 squares

What is a rule? _____

How many squares will there be in Figure 5? _____ squares