



Vocabulary

Review

Write the correct word to continue each *pattern*.

- Monday, Wednesday, Friday, Sunday, Tuesday, . . .
- January, April, July, October, January, . . .
- red, blue, red, yellow, red, blue, . . .
- circle, square, triangle, circle, square, . . .

Write the next number in each *pattern*.

5. 2, 4, 6, 8,

6. 6, 3, 0, -3,

7. 2, 8, 32, 128,

Vocabulary Builder

variable (noun) VERH ee uh bul

Related Words: vary

Main Idea: A **variable** is usually a letter that can change or vary.

Definition: A **variable** is a symbol that can represent one or more numbers.

Math Usage: A **variable** represents an unknown number in equations and inequalities.

x and **y**
are often used as
variables

Use Your Vocabulary

8. Write **N** if the expression is a *numerical expression*. Write **A** if the expression is an *algebraic expression*.

$5x$

$3 + \frac{5}{2}$

$9 - z \cdot 5$

$\frac{6}{r} + 7$

9. Circle the *variables* in each algebraic expression below.

$3 - x$

$4w + d$

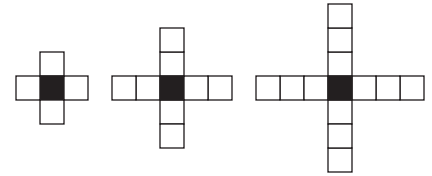
$8 \cdot v$

$k + 2q - 7$



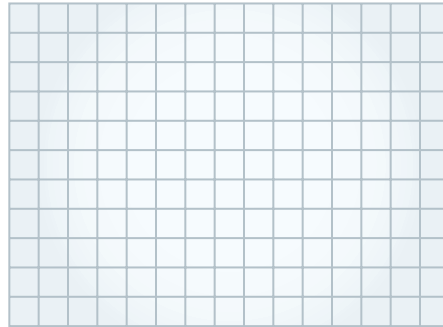
Problem 1 Identifying a Pattern

Got It? Look at the figures from left to right. What is the pattern?
Draw the next figure in the pattern.



10. There are white squares in the first figure.
11. There are more white squares in the second figure.
12. Describe the pattern.

13. Draw the next figure in the pattern.



Problem 2 Expressing a Pattern with Algebra

Got It? How many tiles are in the 25th figure in this pattern?
Use a table of values with a process column.



14. Complete the table of values.

Figure Number (Input)	Process Column	Number of Tiles (Output)
1	$1 + (2 \cdot 1 + 1)$	4
2	$1 + (2 \cdot \text{ } + 1)$	
3	$1 + (2 \cdot \text{ } + 1)$	
4	$1 + (2 \cdot \text{ } + 1)$	10
$\vdots$	$\vdots$	$\vdots$
n		

15. There are $25(\text{ } + 2)$, or , tiles in the 25th figure of this pattern.

16. Explain how the table of values helps you find the number of tiles in the 25th figure.



Problem 3 Using a Graph

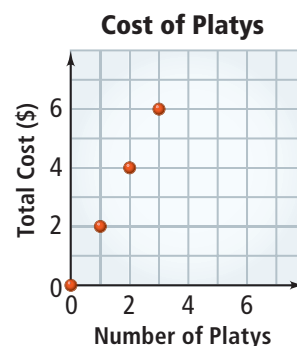
Got It? The graph shows the total cost of platys at the aquarium shop. Use a table to find the cost of six platys.

17. Circle the description of the input value. Underline the description of the output value.

cost of platys number of platys process total cost

18. Complete the table of values.

(Input)	Process Column	(Output)
1	$1 \cdot 2$	
2	$\square \cdot 2$	4
$\square$	$3 \cdot \square$	6
6	$\square \cdot \square$	$\square$
$\vdots$	$\vdots$	$\vdots$
n	$\square \cdot \square$	$2 \square$



Underline a number or expression to complete each sentence.

19. In the table, when the input value is 6, the output value is 2 / 6 / 12.

20. The expression $n / 2n / 3n$ describes the cost of 1 / 2 / n platys.

21. At the aquarium shop, six platys cost \$.



22. 2, 4, 6, 8

23. ||| ||||| ||||| |||||



Input	3	6.8	8	10	25
Output	2	3.4	4	5	12.5

Output = Input $\div$ 3

$$\text{Output} = \text{Input} \cdot 2$$
$$\text{Output} = \text{Input} \div 2$$

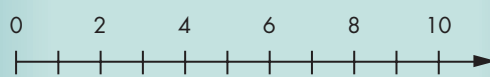
Yes / No



 variable

 algebraic expression

Need to review



**Now I
get it!**