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Apply Rules to Complete Multiplication Pattern

1. Follow the rule. Use multiplication table to complete the input/output tables.

Rule: Multiply by 7	
Input	Output
2	
6	
8	
10	
12	

Rule: Multiply by 10	
Input	Output
1	
3	
5	
9	
11	

Rule: Divide by 8	
Input	Output
32	
48	
64	
80	
96	

Rule: Divide by 12	
Input	Output
48	
120	
84	
36	
132	

2. The product of two numbers is 54. List all the possible factor pairs. Explain how you found these factors.

Solution:
.

3. True or False?
   a. All the multiples of 10 are also multiples of 5.
   b. All multiples of 4 are also multiple of 8.
   c. If a number is a multiple of 6, it will also be a multiple of 12.
   d. All multiples of 12 are also multiples of 3 and 4.

Solution:
a.
b.
c.
d.

4. Use the multiplication table and answer the following questions.
   a. What pattern do you see in multiples of 5?
   b. What pattern do you see in multiples of 10?
   c. What pattern do you see in multiples of 2?
   d. What pattern do you see in multiples of 1?

Solution:
a.
b.
c.
d.

5. There are 168 people waiting to board a normal bus from Boston to New York. A normal bus can hold 56 people. How many normal buses are needed?

Solution:

6. An oxygen atom has 8 neutrons and 8 protons in its nucleus. There are 8 electrons circling the nucleus. Oxygen gas molecule contains 2 atoms of oxygen. How many total protons, neutrons, and electrons are there in one molecule of oxygen?

Solution:

7. Find the value of the variable.
   a. $72 \div 8 = f$
   b. $e \times 9 = 81$
   c. $d \div 6 = 8$

Solution:

   d. $7 \times c = 42$
   e. $b \div 11 = 9$
   f. $84 \div a = 7$

Solution:

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Apply Rules to Complete Multiplication Pattern

Answer Key

1. Follow the rule. Use multiplication table to complete the input/output tables.

Rule: Multiply by 7	
Input	Output
2	14
6	42
8	56
10	70
12	84

Rule: Multiply by 10	
Input	Output
1	10
3	30
5	50
9	90
11	110

Rule: Divide by 8	
Input	Output
32	4
48	6
64	8
80	10
96	12

Rule: Divide by 12	
Input	Output
48	4
120	10
84	7
36	3
132	11

2. The product of two numbers is 54. List all the possible factor pairs. Explain how you found these factors.

Solution: (1,54) (2,27) (3,18) (6,9);
By using the multiplication table

3. True or False?
   a. All the multiples of 10 are also multiples of 5.
   b. All multiples of 4 are also multiple of 8.
   c. If a number is a multiple of 6, it will also be a multiple of 12.
   d. All multiples of 12 are also multiples of 3 and 4.

Solution:
a. True
b. False
c. False
d. True

4. Use the multiplication table and answer the following questions.
   a. What pattern do you see in multiples of 5?
   b. What pattern do you see in multiples of 10?
   c. What pattern do you see in multiples of 2?
   d. What pattern do you see in multiples of 1?

Solution:
a. end in 5 or 0
b. end in 0
c. all even numbers
d. all counting numbers

5. There are 168 people waiting to board a normal bus from Boston to New York. A normal bus can hold 56 people. How many normal buses are needed?

Solution:
3

6. An oxygen atom has 8 neutrons and 8 protons in its nucleus. There are 8 electrons circling the nucleus. Oxygen gas molecule contains 2 atoms of oxygen. How many total protons, neutrons, and electrons are there in one molecule of oxygen?

Solution: 48

7. Find the value of the variable.

a. $72 \div 8 = f$
b. $e \times 9 = 81$
c. $d \div 6 = 8$

a. 9
b. 9
c. 48

d. $7 \times c = 42$
e. $b \div 11 = 9$
f. $84 \div a = 7$

a. 6
b. 99
c. 12