

Name \_\_\_\_\_

## Numerical Patterns

A soccer league has 7 teams. How many players are needed for 7 teams? How many soccer balls are needed by the 7 teams?

	<b>Number of Teams</b>	1	2	3	4	7
Add <u>8</u> .	<b>Number of Players</b>	8	16	24	32	56
Add <u>4</u> .	<b>Number of Soccer Balls</b>	4	8	12	16	<b>28</b>

**Step 1** Find a rule that could be used to find the number of players for the number of teams.

Think: In the sequence 8, 16, 24, 32, you add 8 to get the next term.

As the number of teams increases by 1, the number of players increases by 8. So the rule is to add 8.

**Step 2** Find a rule that could be used to find the number of soccer balls for the number of teams.

Think: In the sequence 4, 8, 12, 16, you add 4 to get the next term.

As the number of teams increases by 1, the number of soccer balls needed increases by 4. So the rule is to add 4.

**Step 3** For 7 teams, multiply the number of players by  $\frac{1}{2}$  to find the number of soccer balls.

So, for 7 teams, 56 players will need 28 soccer balls.

Complete the rule that describes how one sequence is related to the other. Use the rule to find the unknown term.

<b>Number of Teams</b>	1	2	3	4	8	10
<b>Number of Players</b>	15	30	45	60	120	
<b>Number of Bats</b>	5	10	15	20		50

1. Divide the number of players by \_\_\_\_\_ to find the number of bats.
2. Multiply the number of bats by \_\_\_\_\_ to find the number of players.