Problem Solving:
Look for a Pattern

Sometimes you can solve a problem by identifying a pattern.
Here are two types of patterns.

Patterns in sets of numbers

$\frac{15}{4}, \frac{13}{4}, \frac{11}{4}, \frac{9}{4}, \frac{7}{4}, \frac{5}{4}, \frac{3}{4}$

Ask yourself:
Are the numbers increasing?
Are they decreasing?
Do they change by the same amount each time?
Do you add, subtract, multiply, or divide to find the next number?

Patterns in groups of figures

Ask yourself:
How is the first figure modified to make the second figure?
How is the second figure modified to make the third?

Remember: Once you have identified a possible number pattern, check at least two other consecutive numbers to make sure that the pattern is true for all of the numbers.
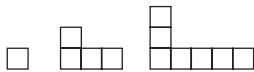
Find the missing numbers. Describe the pattern.

1. $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, _____, _____, _____, _____, $2\frac{3}{4}$ 　　　　　_____

2. 89, 78, 67, _____, _____, _____, _____, 12, 1 　　　　　_____

3. $\frac{1}{5}, \frac{4}{5}, \frac{7}{5}, \frac{10}{5}$, _____, _____, _____, _____, $\frac{25}{5}$ 　　　　　_____

4. Draw the next figure in the pattern below.

5. **Number Sense** The table below shows the number of cells in a culture. How many cells will there be at 4:30?

Time	1:00	1:30	2:00	2:30	3:00
Number of Cells	1	2	4	8	16