Growing rational patterns

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. Continue the constant-step pattern with two terms: 0.3, 0.6, 0.9, ... [2 marks]

Add 0.3 each time.

Answer: 1.2, 1.5.

2. Continue by adding $\frac{1}{5}$ each time: $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, ... [2 marks]

The next fractions are $\frac{5}{5}$ and $\frac{6}{5}$.

Answer: 1, $1\frac{1}{5}$.

3. Find the missing value in this constant-difference pattern: 1.2, 1.6, __, 2.4. [1 mark]

Add 0.4 at each step.

Answer: 2.0.

4. A pattern decreases by 0.25. Start at 2 and write the next three terms. [2 marks]

Subtract one quarter at each step.

Answer: 1.75, 1.50, 1.25.

5. A jogger increases a route by 0.5 km each week. Week 1 is 2 km. How far is week 4? [2 marks]

The weekly distances are 2, 2.5, 3 and 3.5 km.

Answer: 3.5 km.

6. A learner continues $\frac{1}{2}$, $\frac{3}{4}$, 1 with $\frac{1}{4}$. Explain the error under the add-$\frac{1}{4}$ rule. [2 marks]

The rule keeps adding $\frac{1}{4}$; it does not restart after 1.

Answer: The next term should be $1\frac{1}{4}$.