

Name: \_\_\_\_\_

**Introduction to Sequences**

**Find the next three terms in each sequence.**

1) 1, -1, 1, -1, 1, ...

2) 10, 15, 20, 25, ...

3) 4, 16, 36, 64, 100, ...

4) 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ,  $\frac{1}{16}$ , ...

**Find the tenth term in each sequence.**

5) 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ , ...

6) -1, -4, -9, -16, -25, ...

7) -4, 12, -36, 108, -324, ...

8) -10, 15, 20, 25, 30, ...

**Find the first four terms in each sequence.**

9)  $a_n = \frac{2n+1}{n}$

10)  $a_n = n^2 + 1$

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1) 1, 10, 100, 1000, 10000, ...

2)  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{1}{6}$ , ...

3) 10, 20, 30, 40, 50, ...

4) -1, 10, -100, 1000, -10000, ...

5) 1, 4, 9, 16, 25, ...

6) -10, -100, -1000, -10000, ...

7) 10, -10, 10, -10,  $\frac{1}{10}$ , ...

8) 10, 20, 30, 40, 50, ...

9)  $a_n = 2^{n-1}$

10)  $a_n = \frac{n^2}{2n+1}$