

PreCalculus Quiz

Your Name:

(1-4) What type of sequence? (A)rithmetic, (G)eometric, (N)either, or (B)oth?

(circle one)

1. $-0.1, 1, -10, 100, \dots$ A G N B

2. $5, 5, 5, 5, \dots$ A G N B

3. $14, 10, 6, 2, \dots$ A G N B

4. $1, 2, 5, 9, 15, \dots$ A G N B

5. List the first five terms of the sequence.

$$a_n = 3 \cdot \left(\frac{3}{5}\right)^{n-1}$$

6. A geometric sequence has $a_4 = 54$ and $a_7 = 1458$. Find:

$$a_1 =$$

$$r =$$

$$a_5 =$$

$$S_{10} =$$

7. Find the sum.

$$\sum_{k=1}^{10} 8 \cdot \left(-\frac{1}{4}\right)^{k-1}$$

over \rightarrow

8. Find the sum.

$$\sum_{n=0}^6 500 \cdot (1.06)^n$$

9. Find the sum.

$$\sum_{n=1}^{\infty} 2 \cdot \left(-\frac{2}{3}\right)^{n-1}$$

10. Write the repeating decimal as a ratio of integers (simplified). Show all work and do not use your calculator.

$$0.3\overline{18}$$

11. A ball is dropped from a height of 12 feet. Each time it bounces it rises to half its previous height. If the ball bounces forever, what is the total distance that the ball travels?