Limits of Sequences

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For each of the sequences:
- write the rule that gives the next term
- write the next three terms
- if the series has a limit, write the limit

1 $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{16}$ $\frac{1}{32}$ $\frac{1}{64}$ **Limit:** 0

Rule: Divide the previous term by two

1 $-\frac{1}{2}$ $\frac{1}{3}$ $-\frac{1}{4}$ $\frac{1}{5}$ $-\frac{1}{6}$ $\frac{1}{7}$ **Limit:** 0

Rule: Increase the number on the bottom and change sign

0.3 0.33 0.333 0.3333 0.33333 0.333333 **Limit:** $0.\dot{3} = \frac{1}{3}$

Rule: Add another 3 to the end of the decimal

5 5 5 5 5 5 5 **Limit:** 5

Rule: It's always a 5; add zero to the previous term

1 3 6 10 15 21 28 **Limit:** No limit

Rule: Add the next number each time (+2, +3, +4, +5...)