Please hand in one worksheet per group of 2-4 people.

For the following sequences

(a) express in bracket notation.
(b) express as a formula for a general term $a_n$.
(c) determine whether they are increasing, decreasing, or neither.
(d) determine whether it is convergence or divergent.

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

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

3. $1, -1, 1, -1, \ldots$