## Using the Nth Term of Sequences

| $u_{n}=\frac{6 n}{n+7}$ | $u_{n}=\frac{4 n+3}{n+1}$ | $u_{n}=\frac{10-3 n}{2+n}$ | $u_{n}=\frac{4 n^{2}}{n^{2}+8}$ |
| :---: | :---: | :---: | :---: |
| (a) | (a) | (a) | (a) |
| Find the value of $u_{8}$ as a fraction in its simplest form. $\frac{16}{5}$ | Find the value of $u_{9}$. $\frac{39}{10}$ | Find the $6^{\text {th }}$ term. $-1$ | Find the value of $u_{5}$ as a mixed number. $3 \frac{1}{33}$ |
| (b) | (b) | (b) | (b) |
| A term of the sequence is $\frac{11}{3}$ Find the value of $n$. $n=11$ | A term of the sequence is $\frac{15}{4}$ Find the value of $n$. $n=3$ | A term of the sequence is $-\frac{7}{5}$ Find the value of $n$. $n=8$ | Find the term in the sequence closest to 3.8 $\frac{72}{19}$ |
| (c) | (c) | (c) | (c) |
| Find the difference between the $5^{\text {th }}$ term and the $9^{\text {th }}$ term. $\frac{7}{8}$ | Find the sum of the $4^{\text {th }}$ term and the $14^{\text {th }}$ term. $\frac{116}{15}$ | $\begin{gathered} \text { Find } 2 u_{10}-u_{16} \\ -\frac{11}{9} \end{gathered}$ | Find the difference between the $8^{\text {th }}$ term and the $10^{\text {th }}$ term. $\frac{4}{27}$ |
| (d) | (d) | (d) | (d) |
| Find the first term in the sequence that is greater than 4 $\frac{45}{11}$ | Find the first term in the sequence that is greater than $\begin{aligned} & 3.9 \\ & \frac{43}{11} \end{aligned}$ | Find the first term in the sequence that is negative. $-\frac{1}{3}$ | Find the smallest value of $n$ for which $u_{n}>\frac{7}{2}$ $n=8$ |

