Quiz 15, February 23, 2016

Find the limit of the sequence whose n^{th} term is $a_n = \frac{1-2n}{1+2n}$.

Answer: Divide top and bottom by n to see that

$$\lim_{n\to\infty} a_n = \lim_{n\to\infty} \frac{1-2n}{1+2n} = \lim_{n\to\infty} \frac{\frac{1}{n}-2}{\frac{1}{n}+2} = \frac{-2}{2} = \boxed{-1}.$$