15. To be proved: $\lim_{x \to 1/2} \dfrac{1 - 4x^2}{1 - 2x} = 2.$

Proof: Let $\epsilon > 0$ be given. Then if $x \neq 1/2$ we have

$$\left| \frac{1 - 4x^2}{1 - 2x} - 2 \right| = |(1 + 2x) - 2| = |2x - 1| = 2 \left| x - \frac{1}{2} \right| < \epsilon$$

provided $|x - \frac{1}{2}| < \delta = \epsilon/2$.