16. To be proved: $\lim_{x \to -2} \dfrac{x^2 + 2x}{x + 2} = -2.$

Proof: Let $\epsilon > 0$ be given. For $x \neq -2$ we have

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

provided $|x + 2| < \delta = \epsilon$. This completes the proof.