Q3

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$f(x) = 4x^2 + 8x + 3$$

$$x = -\frac{8 \pm \sqrt{64 - 4(4)(3)}}{8} = -\frac{8 \pm \sqrt{64 - 48}}{8}$$

$$= \frac{-8 \pm \sqrt{16}}{8} = \frac{-8 \pm 4}{8} \qquad \therefore \boxed{x = -\frac{1}{2}, \frac{-3}{2}}$$