(4)

$$Q(t) = \frac{t^2 + 3t + 2}{t + 1}$$

$u = t^2 + 3t + 2$

$u_1 = 2t + 3$

$v = t + 1$

$v_1 = 1$

Quotient rule

$$= \frac{u \times v_1 - u_1 \times v}{v^2}$$

$$= \frac{(t^2 + 3t + 2)(1) - (2t + 3)(t + 1)}{(t + 1)^2}$$

$$= \frac{(t^2 + 3t + 2) - (2t + 3)(t + 1)}{(t + 1)^2}$$

$$= \frac{t^2 + 2t + 1}{(t + 1)^2}$$