Exercise 2.101 Solving Quadratic Equations (Year 1 Pure Maths)

Link to Solutions: https://youtu.be/3ku_YHnHcuQ

① $f(x) = 24x - 43 - 3x^2$

(a) Express $f(x)$ in the form $a(x + b)^2 + c$, where a, b and c are constants

(b) Hence, or otherwise, find the exact solutions to $f(x) = 0$

(2) $10x - 16 - x^2 = p - (x + q)^2$, where p and q are integers.

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(a) Find the value of p and the value of q

(b) Hence, or otherwise solve the equation $10x - 16 - x^2 = 0$

③ The equation $3x^2 + tx + 5t = 0$, where t is a non − zero constant, has equal roots.

Find t

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④ *The equation* $\frac{5 - x^2}{x + 3} = p$, *where* p *is a constant, has a repeated real root.*

Find the two possible values of p

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