Quadratics - Exercises (1 page; 7/10/18)

(1) Factorise $15x^2 + 34x + 16$

(2) Derive the quadratic formula for the equation

$ax^2 + bx + c = 0$, by completing the square

(3) Find the turning points of the following quadratic functions (without differentiating)

(i) $y = x^2 + x - 2$

(ii) $s = 10t - 5t^2$

(iii) $s = 1 + 10t - 5t^2$

(4) For what value of x does $(x + 2)(x + 4)$ have its minimum value?

(5) How to find k if $y = kx + 1$ touches $y = x^2 + 2x + 3$?

(6) Give an example of a quadratic equation that has no real roots.