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Other Questions

(Gaeaf 2005)

6. The curve C has equation

$$y = 4x^2 - 7x + 11,$$

and the line L has equation

$$y = 5x + k\ ,$$

where k is a constant. Given that L intersects C in two distinct points, show that $k > 2$. [6]

(Haf 2006)

8. Solve the following inequalities.

(a) $1 - 5x < x + 8$ [2]

(b) $(x + 8)(x + 1) < 3x$ [4]

(Gaeaf 2007)

6. Differentiate **each** of the following with respect to x.

(a) $2x^5 + \frac{24}{x^2} - 3\sqrt{x}$ [3]

(b) $x^2(3x + 1)$ [2]

(Haf 2009)

4. *(b)* Solve the simultaneous equations $y = x^2 - x - 7$ and $y = 2x + 3$ algebraically. Write down a geometrical interpretation of your results. [5]

(Gaeaf 2013)

(b) Solve the simultaneous equations $y = x^2 - x - 9$ and $y = 2x - 5$ algebraically. **Write down** a geometrical interpretation of your results. [5]

(Haf 2016)

5. *(a)* Express $x^2 + 4x - 8$ in the form $(x + a)^2 + b$, where a and b are constants whose values are to be found. [2]

(b) Use an algebraic method to solve the simultaneous equations $y = x^2 + 4x - 8$ and $y = 2x + 7$. [4]

(c) Draw a sketch illustrating geometrically the results of both part *(a)* and part *(b)*. [4]

(Haf 2017)

6. Solve the inequality $2x^2 + 11x + 12 \geqslant 0$. [3]

(Haf 2018)

6. Find the range of values of x satisfying the inequality

$$9x^2 + 16x - 4 > 0.$$ [3]