

- ① A quartic curve has equation  $y = x^4 - 4x^2 + 10$ .



(a) Work out  $\frac{dy}{dx}$ .

(2 marks)

- (b) Find the equation of the tangent to the curve at the point where  $x = 2$ .

Give your answer in the form  $y = mx + c$

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(4 marks)

Calculations and Answer

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- ② Work out all the solutions for  $x$  and  $y$  if,

$$\begin{pmatrix} x & -4 \\ 6 & y \end{pmatrix} \begin{pmatrix} x \\ -5 \end{pmatrix} = \begin{pmatrix} 9x \\ 9 \end{pmatrix}.$$

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(5 marks)

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Calculations and Answer

- ③ Solve  $\frac{5}{x+1} + \frac{4}{x-3} = 5$ .

Do not use trial and improvement.

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(6 marks)

Calculations and Answer

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