1. The hyperbola H has

- foci with coordinates $\left(\pm\frac{13}{2}, 0\right)$
- directrices with equations $x = \pm\frac{72}{13}$
- eccentricity e

Determine

(a) the value of e

(3)

(b) an equation for H, giving your answer in the form $px^2 - qy^2 = r$, where p, q and r are integers.

(3)

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Question 1 continued

(Total for Question 1 is 6 marks)