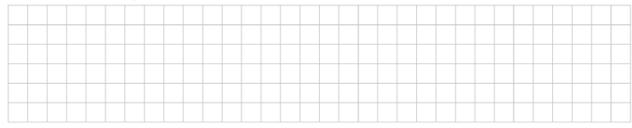
Question 1

(a) Factorise fully $9a^2 - 6ab + 12ac - 8bc$.



(b) Factorise $9x^2 - 16y^2$.



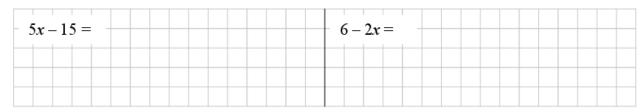
(c) Use factors to simplify the following: $\frac{2x^2 + 4x}{2x^2 + x - 6}$.



Higher Level Question

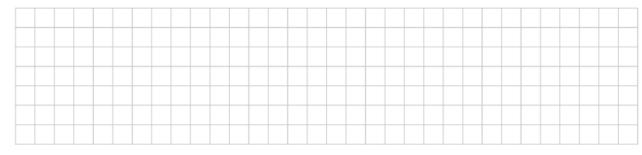
(Suggested maximum time: 10 minutes)

(a) Factorise 5x-15 and 6-2x.



If A and B are variable quantities, we say that A is **proportional to** B if the fraction $\frac{A}{B}$ is a constant.

(b) Using your answers to part (a) above, show that 5x - 15 is proportional to 6 - 2x.



(c) Is $x^2 + 3x + 2$ proportional to 2x + 2? Justify your answer.

