

Question 4. [ 6 marks]

Suppose  $X$  and  $Y$  are independent,  $X$  has mean 5 and variance 9,  $Y$  has mean -3 and variance 6.

Compute

- a.  $E[(3X + 2Y)(X + 4Y + 8)]$ .      b.  $\text{Var}[8XY]$