

2015 P2 Q7

7. (a) Find  $\int (3 \cos 2x + 1) dx$ .

(b) Show that  $3 \cos 2x + 1 = 4 \cos^2 x - 2 \sin^2 x$ .

(c) Hence, or otherwise, find  $\int (\sin^2 x - 2 \cos^2 x) dx$ .

Answers

(a)  $\frac{3}{2} \sin 2x + c$       (b) Proof      (c)  $-\frac{3}{4} \sin 2x - \frac{1}{2} x + c$