

Integration By Parts : 1

Find

1) $\int x \ln x \, dx$

2) $\int (3x+2) \cos x \, dx$

3) $\int x \sin 2x \, dx$

4) $\int (3x+1) e^{2x} \, dx$

5) $\int (x+3) e^{2x} \, dx$

6) Find a) $\int x \cos 2x \, dx$

b) Use the answer for a) to find

$$\int x \cos^2 x \, dx$$