

$$\int \underbrace{x}_u \underbrace{\cos x/2}_{dv/dx} dx$$

$$uv - \int v du/dx dx$$

$$du/dx = 1 \quad v = 2 \sin x/2$$

$$2x \sin x/2 - \int 2 \sin x/2$$

$$2x \sin x/2 + 4 \cos x/2 + C$$

$$c) i) \int \frac{15x^2 - 4x}{5x^3 - 2x^2 + 5} dx$$

$$= \ln(5x^3 - 2x^2 + 5) + C$$

$$ii) \int \frac{7}{4x-15} dx$$

$$7 \int \frac{1}{4x-15} dx \rightarrow 1.75 \ln(4x-15) + C$$

$$iii) \int \tan^2 x dx$$

$$\tan(x) - x + C$$