INTEGRATION BY PARTS

2 Find: **(a)** $\int x\sqrt{4-x}\,dx$ **(b)** $\int x\tan^{-1}x\,dx$

INTEGRATION BY PARTS

2 Find: **(d)** $\int x \sin 2x \, dx$ **(f)** $\int \sin^{-1} 2x \, dx$

INTEGRATION BY PARTS

3 Find: **(d)** $\int x^2 \cos x \, dx$ **(e)** $\int x e^{-x} \, dx$

INTEGRATION BY PARTS

4 Find: **(a)** $\int e^{-x} \sin x \, dx$ **(d)** $\int \sin(\log_e x) \, dx$

INTEGRATION BY PARTS

5 Evaluate: **(a)** $\int_0^{\frac{\pi}{2}} x\cos x\,dx$ **(e)** $\int_{-\frac{1}{\sqrt{2}}}^{\frac{1}{\sqrt{2}}} \sin^{-1} x\,dx$

INTEGRATION BY PARTS

6 Evaluate: **(b)** $\int_0^{\frac{\pi}{2}} e^x \sin x \, dx$ **(h)** $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} x \sec^2 x \, dx$

INTEGRATION BY PARTS

7 $\int_{-\pi}^{\pi} x^2 \sin x \, dx = \ldots$

A $2\pi^2 - 2$ **B** 0 **C** 2 **D** $2\pi^2$

8 Find the area of the region bounded by the curve $y = \log_e x$ $(x > 0)$, the x-axis and the line $x = a$ $(a > 1)$.