

## Lesson 5.6

### INTEGRATION BY SUBSTITUTION

Choose the most suitable **u** in the following integration to use substitution:

$$\int (x^3 + 5)^2(x^2)dx$$

a)  $(x^3 + 5)^2$

b)  $x^3 + 5$

c)  $x^2$

$$\int 2xe^{x^2} dx.$$

a)  $2x$

b)  $e^{x^2}$

c)  $x^2$

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

a)  $x$

b)  $\cos x^2$

c)  $x^2$

$$\int \frac{\sin \sqrt{x}}{\sqrt{x}} dx.$$

a)  $\sqrt{x}$

b)  $\sin \sqrt{x}$

c)  $\frac{\sin \sqrt{x}}{\sqrt{x}}$

$$\int \frac{(\tan^{-1} x)^2}{1+x^2} dx.$$

a)  $\tan^{-1} x$

b)  $\sin^{-1} x$

c)  $x$