

## A - Level Maths 15 Minute Boost 1

State the cosine rule:	
What are the small angle approximations?	$\sin(x) \approx$ $\cos(x) \approx$ $\tan(x) \approx$
$\frac{d}{dx}(\sin(ax + b)) =$	
What are the three Pythagorean trigonometric identities?	
$\int e^{ax+b} dx =$	
<p>1) Given that <math>(x + 4)</math> is a factor of <math>p(x) = x^3 + bx^2 - 2x - 24</math> find the value of <math>b</math> and fully factorise <math>p(x)</math>.</p>	



**2 a)** Find the binomial expansion of  $(4 + 3x)^{\frac{1}{2}}$  up to there term including  $x^3$ .

**b)** Using part (a), find an approximate value to  $\int_0^1 (4 + 3x)^{\frac{1}{2}} dx$  and the percentage error made in this calculation. (Use your calculator to obtain the “exact” value of the. integral.)

