

Big IBSL Test Review

14 October 2008

$$\sum_{n=1}^4 \left(\frac{1}{3}\right)^n$$

Find the sum:

$$10 - 5 + \frac{5}{2} - \frac{5}{4} + \dots$$

Find the coefficient of x^8 in the expansion of $(3x + 7)^{12}$

Expand: $(bx + 2)^3$

Solve [no g.d.c.]: $\frac{1}{3} \cos x = \sin x$

Factorise and solve: $4 \sin^2 \theta - 9 \sin \theta + 2 = 0$

Find the constant term in the expansion of:

$$\left(x^3 + \frac{3}{x}\right)^4$$

Our topics to consider:

Arc length of a sector

Area of a sector

Graphing a trigonometric function

Arithmetic sequences and series

Geometric sequences and series

Summation notation and infinite series

Cosine rule