



MATHS PUZZLE



ANSWER TO LAST TERM'S PUZZLE

Prove that

$$2x \geq 9 - \frac{27}{x^2}$$

for all positive integers, x .

(while you're at it, also find the value of x which gives equality)

Last week's puzzle boiled down to considering the expression $2x^3 - 9x^2 + 27$ which factorises to $(2x+3)(x-3)^2$

The first bracket is positive since x is. The squared bracket is never negative, proving our result. Equality only holds when $x=3$.

THIS WEEK'S PUZZLE:



A football team are celebrating the signing of superstar, Bart O' Seaway. To mark the occasion they've purchased 101 metres of bunting, to be stretched from the base of the corner flags at either end of the 100 metre long pitch and raised at the centre. The manager is convinced this will allow their new player to just about walk under the bunting onto the pitch to be welcomed by the fans. The current club captain disagrees and says that there will barely be enough room to crawl under. The goalie says you'd be lucky to squeeze his gloves under. The midfielders reckon there will be plenty of room for the three of them to get under the bunting on each others' shoulders. Who's right?!