Maths IB_1 **Pre - test 1a** Tuesday 3.9.2024

Revision *(factorisation, identities, expansion, roots ...)* Name:_____

Problem 1 *Simplify the following expression* [/ 8 marks]

1) $\sqrt{72}$

2) $\frac{\sqrt{30}\times\sqrt{20}}{5\sqrt{6}}$

3) $\frac{\sqrt{72}}{\sqrt{8}}$

4) $\frac{(3+\sqrt{8})^2+(3-\sqrt{8})^2}{2}$

Problem 2 *Solve the second degree equations* [/ 6 marks]

using either the determinantor the method of 'completing the square'

1) $x^2-3x-28=0$

2) $-2\,x^2+20\,x-30=0$

Problem 3 *Solve the following logarithmic equations* [/ 12 marks]

1) $2\log_3(x-1)=4$

2) $\log_3(x-4)+\log_3(x+4)=2$

3) $\log_9((x-2)^2)=1$

4) $\log_4(8x)-\log_4(x-7)=2$

5) $\log_2^2(x)-4\log_2(x)+3=0$

6) $\log_2(x^2-5x+10)=2$

tot: / 24 marks