

**HIGHER REVISION H**

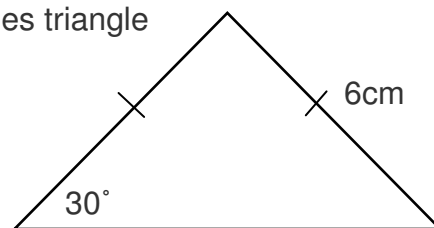
1. Factorise  $9a^2 - 1$
2. Make p the subject of the formula  $tp = mp - et$
3. Find the nth term for the linear sequence 6, 10, 14, 18, 22, .....

4. Simplify  $\frac{x^2 + 4x}{x^2 - 9} \div \frac{3x + 12}{x^2 + 4x + 3}$

5. Find the volume of a sphere with radius 8cm.
6. The volume of a cylinder is  $400\text{cm}^3$ . If the height and diameter are both x cm. Find x.
7. A sample of 50 students is taken from the population below. Use a stratified sampling method to find the number of year 8 boys who should be chosen.

	Year 7	Year 8
Boys	74	66
Girls	58	62

8. Find the area of this isosceles triangle



9. Solve the following quadratic equation. Give your answers to 2dp.

$$2x^2 + 3x - 4 = 0$$

10. Express the following in the form  $(x + a)^2 + b$ , stating clearly the values of a and b.

(a)  $x^2 + 4x - 2$

(b)  $x^2 - 3x + 2$