2nd June	Corbettmaths
Solve $8^x = 16^{5-x}$	$(2^3)^x = (2^4)^{5-x}$ $2^{3x} = 2^{20-4x}$ $3x = 20 - 4x$ $7x = 20$ $\underline{x = \frac{20}{7}}$
In Year 10 there are 35 girls. Two of the girls are going to be chosen at random to go on a trip. Work out the number of different pairs that can be chosen.	$\frac{35 \times 34}{2} = \underline{595}$ $({}^{35}C_2)$
The equation of a curve is $y = \frac{4}{3}x^3 + \frac{7}{2}x^2 + ax + 5$ where a is a constant The curve has a maximum point at $\left(-2, \frac{37}{3}\right)$ The curve has a minimum point at $\left(\frac{1}{4}, \frac{455}{96}\right)$ Work out the value of a	$-\frac{32}{3} + 14 - 2a + 5 = \frac{37}{3}$ $-4 = 2a$ $\underline{a = -2}$
Prove that $\frac{sin^2\theta - 9sin\theta + 8}{cos^2\theta} \equiv \frac{8 - sinx}{1 + sinx}$	$LHS = \frac{(\sin\theta - 8)(\sin\theta - 1)}{1 - \sin^2\theta}$ $= \frac{(8 - \sin\theta)(\sin\theta - 1)}{\sin^2\theta - 1}$ $= \frac{(8 - \sin\theta)\cancel{(\sin\theta - 1)}}{\cancel{(\sin\theta - 1)}(1 + \sin\theta)} = RHS$

