REVISION: EXPONENTS

17 MARCH 2014

Lesson Description

In this lesson revise:

- Simplifying Exponents & Surds
- Solving Exponential Equations
- Solving Quadratic Equations

Improve your Skills

Simplifying Exponents & Surds

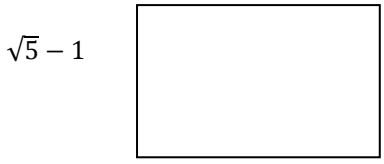
Question 1

Given: $A = \frac{3^n - 4}{6^n - 2^{n+2}}$

1.1 Simplify A

1.2 Hence determine $\sqrt[n]{A}$

Question 2



A rectangle has sides $\sqrt{5}+1$ and $\sqrt{5}-1$, calculate the length of the diagonal, leaving the answer in simplest surd form

Question 3

Without a calculator, simplify

$$\frac{2x + 7\sqrt{x} - 15}{x^{\frac{1}{2}} + 5}$$

Solving Exponential Equations

Question 1

Solve for x: $\sqrt{x-2} = 4 - x$

Question 2

Solve for x: $3^{x^2-1} = \frac{27^{-x}}{3}$

Question 3

Solve for x: $3^x - 3^{x-2} = 24$

Solving Quadratic Equations

Question 1

Solve for *x*, by completing the square and leaving your answer in simplified surd form:

$$-2x^2 + 12x - 8 = 0$$

Question 2

Solve for x: $2x^3 - 5x^2 - 11x = 0$

Question 3

Solve for *x*.

Leave your answers in simplified surd form where necessary:

$(x-4)^2 = k$, where

3.1 k = 0
3.2 k = -9
3.3 k = 5