19th March **Higher Plus 5-a-day**

Corbettmaths

Write the following as a single fraction, in its simplest form.

$\frac{7}{6a} + \frac{a^2}{8}$

$\frac{28 + 3a^3}{24a}$

Expand and simplify

$(x-4)^3$

$(x-4)(x-4)(x-4)$

$(x^2 - 8x + 16)(x-4)$

$x^3 - 8x^2 + 16x - 4x^2 + 32x - 64$

$x^3 - 12x^2 + 48x - 64$

Write as a fraction

$1.2\dot{6}$

$x = 1.26666...$

$10x = 12.6666...$

$100x = 126.666...$

$90x = 114$

$x = \frac{114}{90} = \frac{19}{15}$

$1\frac{4}{15}$

$\tan 45° = \cos 30° \div \sin\theta$

θ is an acute angle.

Find θ

$1 = \frac{\sqrt{3}}{2} \div \sin\theta$

$\sin\theta = \frac{\sqrt{3}}{2}$

$\theta = 60°$

A sequence has an nth term of

$\frac{n+11}{6n-12}$

Which term in the sequence has a value of $\frac{1}{3}$?

$\frac{n+11}{6n-12} = \frac{1}{3}$

$3(n+11) = 6n - 12$

$3n + 33 = 6n - 12$

$45 = 3n$

$n = 15$

$n = 15$

15^{th} term