Name: _____ 5-a-day Further Maths

8th September

Corbettmaths

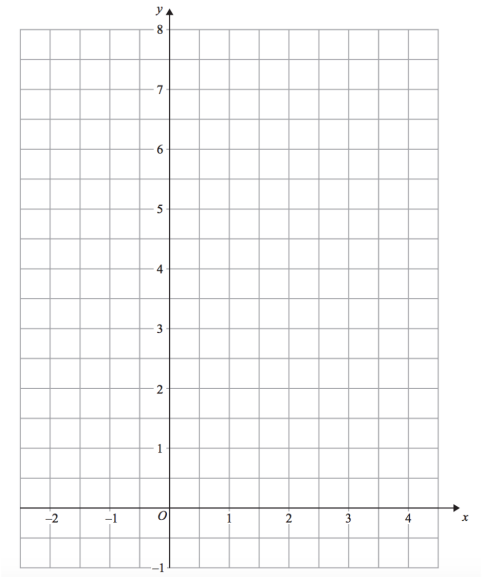
A function f(x) is defined as

$$f(x) = x + 3 \qquad -2 \leq x < -1$$

$$= 2 \qquad -1 \leq x < 1$$

$$= 2x \qquad 1 \leq x \leq 4$$

Draw the graph of $y = f(x)$



Solve

$$x^{\frac{2}{3}} + x^{-\frac{1}{3}} = 2x^{\frac{5}{3}}$$

Show that the tangents to the curve $y = x^3 - 4x^2 - 4x + 4$ at $x = -\frac{1}{3}$ and $x = 3$ are parallel.