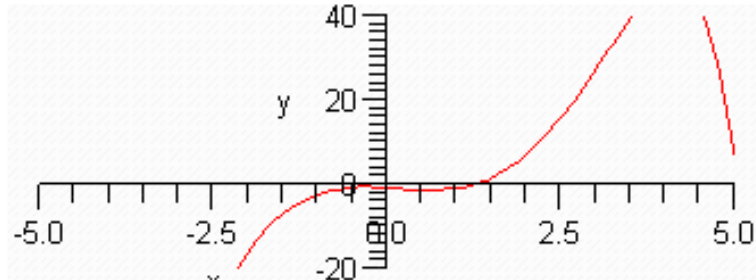


Newton's Method

> $f := x \rightarrow 2 \cdot x^3 - 3^x$;

$$f := x \rightarrow 2x^3 - 3^x$$

> $\text{plot}(f(x), x = -5..5, y = -20..40)$;



> $g := x \rightarrow x - \frac{f(x)}{D(f)(x)}$;

$$g := x \rightarrow x - \frac{f(x)}{(D(f))(x)}$$

> $x[0] := 2$

$$x_0 := 2$$

>

> *for n from 0 to 5 do* $x[n+1] := \text{evalf}(g(x[n]))$ *end do*;

$$x_1 := 1.503985456$$

$$x_2 := 1.301772223$$

$$x_3 := 1.260041905$$

$$x_4 := 1.258265719$$

$$x_5 := 1.258262548$$

$$x_6 := 1.258262548$$

>