Trial and Improvement

Use trial and improvement to solve $x^3 + 2x = 51$ (give answer to 1dp)

Draw a grid to clearly display your working:

x	$x^{3} + 2x$		Comment
3	$(3)^3 + 2(3) = 33$		Too Low
3.5	$(3.5)^3 + 2(3.5) = 49.875$		Too Low
3.6	$(3.6)^3 + 2(3.6) = 53.856$		Too High
3.55	$(3)^3 + 2(3) = 33$ $(3.5)^3 + 2(3.5) = 49.875$ $(3.6)^3 + 2(3.6) = 53.856$ $(3.55)^3 + 2(3.55) = 51.8389$		Too High
	3.5	3.55	3.6

The answer is between 3.5 and 3.55 so to 1dp it is 3.5