

Problem 0580/43/M/J/23/ Q10

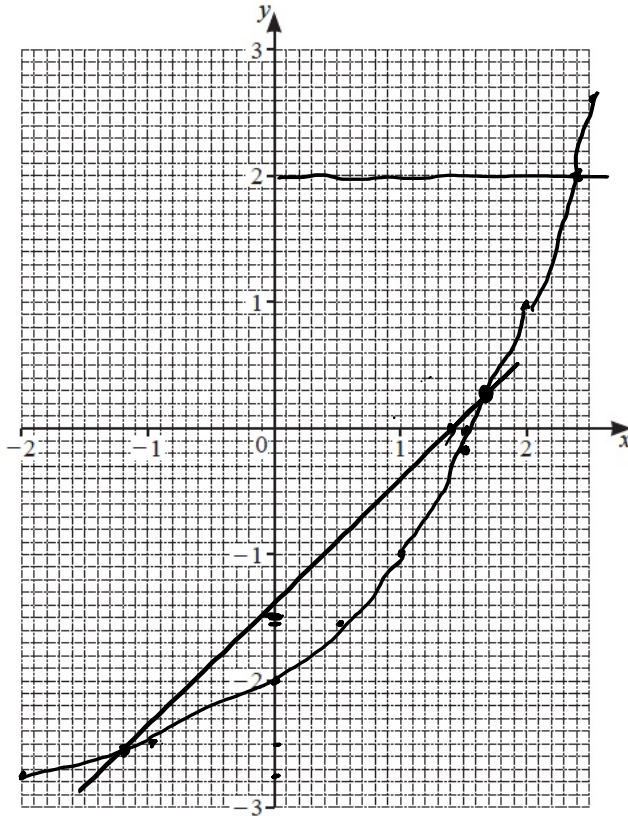
The table shows some values for $y = 2^x - 3$.

x	-2	-1	0	0.5	1	1.5	2	2.5
y	-2.75	-2.5	-2	-1.58	-1	-0.17	1	2.66

(a) Complete the table.

[3]

(b) On the grid, draw the graph of $y = 2^x - 3$ for $-2 \leq x \leq 2.5$.



[4]

(c) Use your graph to solve the equation $2^x - 3 = 2$.

$$x = \dots\dots\dots 2.4 \dots\dots\dots [1]$$

(d) By drawing a suitable straight line, solve the equation $2^x - x - 1.5 = 0$.

$$2^x - 3 = x - 1.5$$

$$y = x - 1.5$$

$$x = \dots\dots\dots -1.2 \dots\dots\dots \text{ or } x = \dots\dots\dots 1.7 \dots\dots\dots [4]$$