

## Graphs – Q5 [Practice/M] (25/5/21)

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**Solution**

$y = 2^x \rightarrow y = 2^{4x}$  is a stretch of scale factor  $\frac{1}{4}$  in the  $x$ -direction

Then  $y = 2^{4x} \rightarrow y = 2^{4(x-\frac{1}{2})} = 2^{4x-2}$  is a translation of  $\begin{pmatrix} \frac{1}{2} \\ 0 \end{pmatrix}$

[Alternatively,  $y = 2^{4x} \rightarrow y = \left(\frac{1}{4}\right) 2^{4x} = 2^{4x-2}$  is a stretch of scale factor  $\frac{1}{4}$  in the  $y$ -direction.]