**20** The radius of a right circular cylinder is $x$ cm.

The height of the cylinder is $\left(\frac{800}{\pi x} - x\right)$ cm.

The volume of the cylinder is $V\text{cm}^3$

Find the maximum value of $V$
Give your answer correct to the nearest whole number.

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**(Total for Question 20 is 5 marks)**

**Turn over for Question 21**