Advanced Higher Maths
SQA 2019 Paper
Question 6

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A spherical balloon of radius r cm, $r > 0$, deflates at a constant rate of $60\,\text{cm}^3\,\text{s}^{-1}$.

Calculate the rate of change of the radius with respect to time when $r = 3$. **3**

[The volume of a sphere is given by $V = \frac{4}{3}\pi r^3$.]

Answer:

$-\frac{5}{3\pi}\text{cms}^{-1}$