

Answer on Question#55599 - Physics / Astronomy | Astrophysics

What is the formula to create a black hole?

Solution

Escape velocity for a star is $v = \sqrt{\frac{2GM}{r}}$, M – mass of the star, r – its radius, G - gravitational constant. If $v > c$ (c is the speed of light in vacuum) nothing could escape from the gravity.

$$c^2 = \frac{2GM}{r}, r = \frac{2GM}{c^2} \text{ - gravitational radius.}$$

Answer: $r = \frac{2GM}{c^2}$

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