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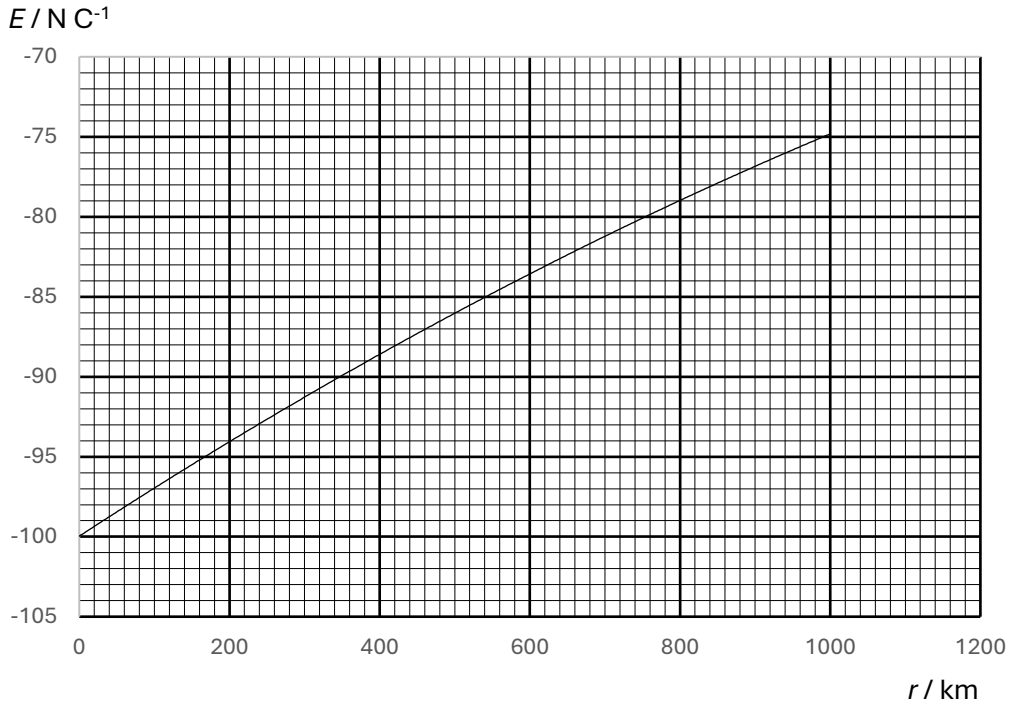
The Earth can be assumed to be a sphere of radius 6400 km where charges are uniformly distributed on the surface. The figure below shows the variation of the electric field strength *E* with the distance *r* from the surface of the Earth.

The electric field strength *E* on the surface of the Earth is -100 N C^{-1}.



Which of the following is the electric potential of Earth at 500 km above its surface?

A

-2.25×10^{-5} V

B

-7.50×10^{-5} V

C

the gradient of the tangent of graph at r = 500 km

D

the area between the graph and r axis from infinity to r = 500 km