24. With $F = m_e g$, Eq. 22-1 leads to

$$r^2 = \frac{ke^2}{m_e g} = \frac{\left(8.99 \times 10^9\,\mathrm{N{\cdot}m^2/C^2}\right)\left(1.60 \times 10^{-19}\,\mathrm{C}\right)^2}{\left(9.11 \times 10^{-31}\,\mathrm{kg}\right)\left(9.8\,\mathrm{m/s^2}\right)}$$

which leads to $r = 5.1$ m. The second electron should be below the first one, so that the repulsive force (acting on the first) is in the direction opposite to the pull of Earth's gravity.