

8 Electric charge and Coulomb's law – Part 1 — Answers

Answers

Work through these after you have tried the questions yourself.

2.1 (a) a push (repulsion); (b) a pull (attraction).

$$\mathbf{2.2} \quad F = \frac{9.0 \times 10^9 \times (2.0 \times 10^{-6})(2.0 \times 10^{-6})}{(0.20)^2} = \frac{0.036}{0.04} = 0.90 \text{ N.}$$

2.3 conductor: a metal (e.g. copper); insulator: plastic (or rubber, glass).

2.4 the distance triples, so the force becomes $3^2 = 9$ times smaller.

2.5 the total charge stays the same – it is only transferred between objects, never created or destroyed.