

18 Electric fields – Part 1 —Answers

Answers

Work through these after trying the questions yourself.

18.1 A region where a charge feels a force from other charges.

18.2 $E = F/q$.

18.3 N C^{-1} .

18.4 $E = F/q = 0.012/(3.0 \times 10^{-6}) = 4.0 \times 10^3 \text{ N C}^{-1}$.

18.5 Radially outwards.

18.6 The force on the positive charge is along the field; the force on the negative charge is equal in size but in the opposite direction (against the field).

18.7 Alike: each is the force per unit "amount" (g per kilogram, E per coulomb). Different: gravity is always attractive, but the electric force can attract *or* repel, depending on the sign of the charge.