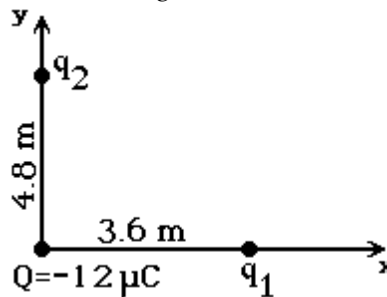


MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) A small sphere with a mass of 275.0 g is moving along the y-axis in the negative y direction when it encounters an electric field of magnitude 5.0 N/C, pointing in the positive y direction. If the sphere suddenly accelerates in the y-direction at $+13.0 \text{ m/s}^2$, what is the charge that it carries?
 A) -0.72 C B) -720 C C) 720 C D) 0.72 C
- 2) A flat disk 1.0 m in radius is oriented so as to have its surface normal make an angle $\pi/3$ radians with a uniform electric field. If the field strength is 140.0 N/C, find the electric flux through the surface.
 A) $480/\pi \text{ N}\cdot\text{m}^2/\text{C}$ B) $70 \pi \text{ N}\cdot\text{m}^2/\text{C}$ C) $120 / \pi \text{ N}\cdot\text{m}^2/\text{C}$ D) $30\pi \text{ N}\cdot\text{m}^2/\text{C}$

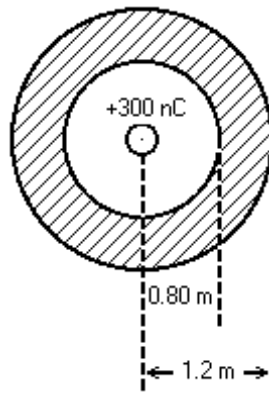
Figure 22.3



A point charge $Q = -12 \mu\text{C}$, and two other charges, q_1 and q_2 , are placed as shown. The electric force components on charge Q are $F_x = +0.005 \text{ N}$ and $F_y = -0.003 \text{ N}$.

- 3) In Figure 22.3, the number of excess electrons in charge Q is closest to:
 A) 7.5×10^{13} B) 6.5×10^{13} C) 9.5×10^{13} D) 8.5×10^{13} E) 5.5×10^{13}
- 4) In Figure 22.3, charge q_1 , in nC, is closest to:
 A) -200 B) $+200$ C) $+600$ D) -400 E) $+400$
- 5) In Figure 22.3, charge q_2 , in nC, is closest to:
 A) -480 B) $+640$ C) $+480$ D) $+320$ E) -640

Figure 23.5



A hollow conducting sphere has radii of 0.80 m and 1.20 m. The sphere carries a charge of -500 nC . A point charge of $+300 \text{ nC}$ is present at the center.

- 6) In Figure 23.5, the charge on the outer spherical surface, in nC, is closest to:
- A) -200 B) -800 C) -500 D) -300 E) zero
- 7) In Figure 23.5, the radial component of the electric field at a point which is 0.90 m from the center is closest to:
- A) $+2000 \text{ N/C}$ B) $+3000 \text{ N/C}$ C) zero D) -2000 N/C E) -3000 N/C

Answer Key

Testname: 1BB-QUIZ1

- 1) D
- 2) B
- 3) A
- 4) C
- 5) E
- 6) A
- 7) C