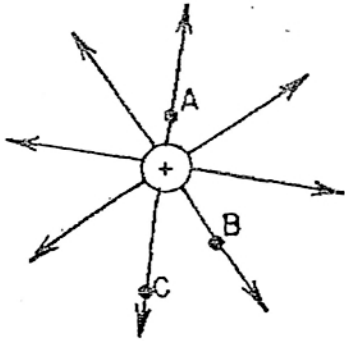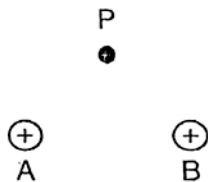24. The diagram above shows some of the lines of electrical force around a positive point charge.

The strength of the electric field is

(1) greatest at point A
(2) greatest at point B
(3) greatest at point C
(4) equal at points A, B, and C

25. In the diagram below, two identical spheres, A and B, have equal net positive charges.

Which arrow best represents the direction of their resultant electric field at point P?

(1) $\longrightarrow$ (3) $\nwarrow$

(2) $\nearrow$ (4) $\uparrow$

26. An electrostatic force of 20. newtons is exerted on a charge of 8.0×10^{-2} coulomb at point P in an electric field. The magnitude of the electric field intensity at P is

(1) 4.0×10^{-3} N/C   (3) 20. N/C
(2) 1.6 N/C   (4) 2.5×10^2 N/C

27. In the diagram below, two positively charged spheres, A and B, of masses m_A and m_B are located a distance d apart.
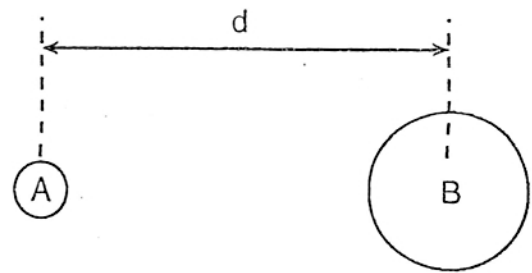
Which diagram best represents the directions of the gravitational force, F_g, and the electrostatic force, F_e, acting on sphere A due to the mass and charge of sphere B? [Vectors are not drawn to scale.]

(1)

(2)

(3)

(4)

28. An object with a net charge of 4.80×10^{-6} coulomb experiences an electrostatic force having a magnitude of 6.00×10^{-2} newton when placed near a negatively charged metal sphere. What is the electric field strength at this location?

(1) 1.25×10^4 N/C directed away from the sphere
(2) 1.25×10^4 N/C directed toward the sphere
(3) 2.88×10^{-8} N/C directed away from the sphere
(4) 2.88×10^{-8} N/C directed toward the sphere