**Pre-test 1: Coulomb’s Law and Curly-r**

Using the (standard) notation of Griffiths (see his Fig 2.3 in section 2.1.3): On each of the diagrams below, identify the labeled vectors (A, B, and C) with either, and **.

NOTE that you may choose more than one of these for any given vector!

1. **Disk** (radius a) of uniform surface charge density B. **Ring** (radius a) with uniform line charge density

P

A

B

C

P

A

B

C

a a

C. **Solid** (radius a) sphere with uniform volume D. Point charge at the origin

charge density

P

A

B

P

A

B

C

a

E. Point charge at an arbitrary location

P

A

B

C

Match each of the diagrams above (A-E) with the correct formula for the magnitude of **. Note that there may be more than one correct form, select ALL that are appropriate for a given diagram. (Here, θ’ is measured from the z-axis)

1 4

2  5

3  6