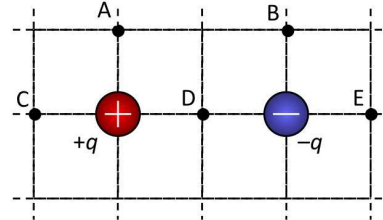


23. Two point charges,  $+q$  and  $-q$  are placed as shown in the figure. What is the correct rank of the five points labeled  $A$ ,  $B$ ,  $C$ ,  $D$ , and  $E$  in order of the electric potential  $V$  at each point due to the two point charges, from the most positive to the most negative. The five points and the two point charges all lie in the same plane.

**Correct D**

- a)  $A = B = C = E > D$
- b)  $C = E > A = B > D$
- c)  $C > A > D > E > B$
- d)  $C > A > D > B > E$
- e)  $A = B > C = E = D$



24. You are given the following circuit where  $R_1 = R_2 = R_3 = R$  and the battery has voltage  $V=120$  V. What is the power  $P$  dissipated in resistor  $R_1$ ?

**Correct C**

- a)  $P = 2V^2/3R$
- b)  $P = 4V^2/9R^2$
- c)  $P = 4V^2/9R$
- d)  $P = 4V^2R^2/9$
- e)  $P = V^2/R$

