

Second Midterm

Name (print) Condella Name (signed) \_\_\_\_\_

Discussion Instructor (circle): Brown Chakibazian Condella Portnoi Zhukov

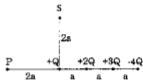
Discussion Section # \_\_\_\_\_

**SHOW ALL WORK!!!!**

**REPORT ALL NUMBERS TO THREE SIGNIFICANT FIGURES!**

Use the conversion constants and data given on the front page.

- (a) Calculate the electric potential at point P due to the four charges shown.  
(b) Calculate the electric potential at point S due to the four charges shown.



12 pts

$$a) V = \frac{kQ}{a} \left( \frac{1}{2} + \frac{2}{3} + \frac{3}{4} - \frac{4}{5} \right) = \frac{67}{60} \frac{kQ}{a}$$

each term 3 pts each

$$b) V = \frac{kQ}{a} \left( \frac{1}{2} + \frac{2}{\sqrt{5}} + \frac{3}{2\sqrt{2}} - \frac{4}{\sqrt{13}} \right)$$

13 pts

Red