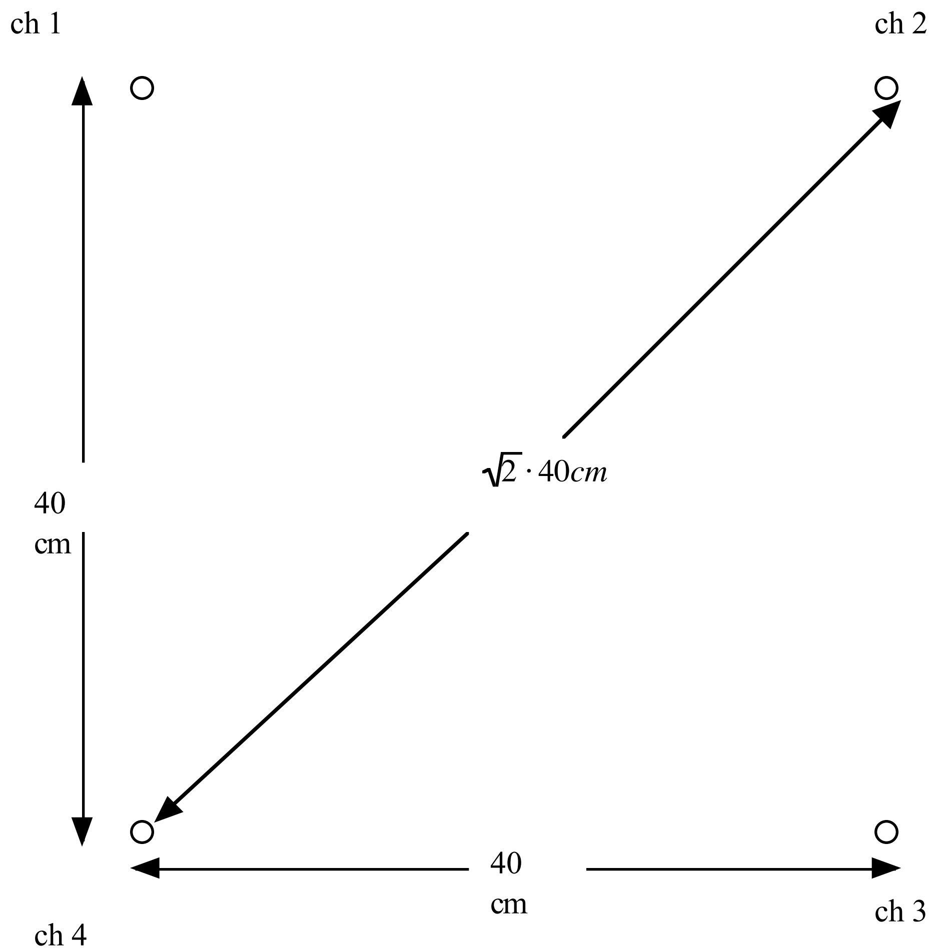
hhh.24.23_24.26



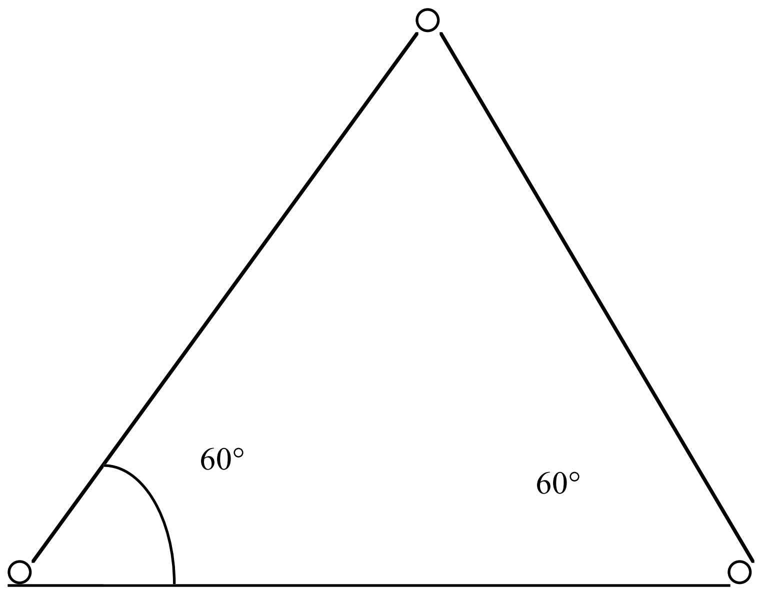
We are trying to find the net **force** on the charge in the bottom left hand corner. Ch1 pushes it down with a force that can be determined from $\frac{90(3)(3)}{40^2}$ (the distance are in cm and the charges are in μC). Charge 3 pushes it to the right with the same force, and charge 2 pushes it down and to the left with a force that is slightly less (you do the work) than the forces from the other charges.

To find the net force (magnitude and angle) you do the same thing that you did with the force tables

24.24 This is the same as the problem above except some of the forces are attractive while others are repulsive.

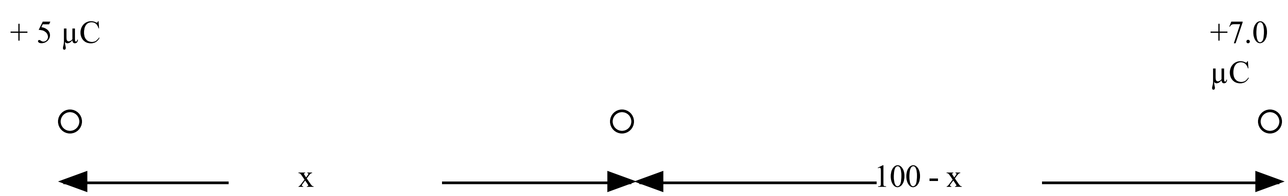
Draw a picture with arrows pointing in the direction of the forces on one of the charges

24.25



THis is still just a vector addition problem. You need to find the force on the -8.0μC charge due to the other separately **and** then break these two forces into their respective **i** and **j** coordinates. The rest is just like the force table to find the net force.

24.26



The trick to this problem is that the distance from the middle charge to the 7 μC is 100 - x since the distance to this charge from the 5 μC is "x".

so

$\frac{90(5)q}{x^2} = \frac{90(7)q}{(100-x)^2}$ the q's as well as the 90 cancels. Solve for "x"

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