

Reflection and Self-Assessment**Completion:** Circle the statement that best describes the completion of this practice.

- I completed every question on the practice.
- I did not complete some questions on the practice because:

Answer Checking: Circle the statement that best describes how you checked your answers

- I checked all my answers against the key at the back and corrected any that were incorrect.
- I did not check all my answers and correct any mistakes because:

Online Worked Solution: Circle the statement that best describes how you used the online worked solutions.

- I did not use the online worked solution at all.
- I used the online solution to understand some questions I got incorrect.
- I used the online solution to help me learn how to answer some questions.

Confidence: Circle the statement that best describes your confidence in answering questions of this type in the future.

- I am confident I can answer nearly any question of this type correctly without using notes or other assistance.
- I am confident I can answer **MOST** questions of this type correctly without using notes or other assistance.
- I am **NOT** confident I can answer most questions of this type correctly without using notes or other assistance.

Time: Circle the statement below that best describes the total amount of time you spent actively working on this practice:

Less than an hour	Between one and two hours	Between two and three hours	Between three and four hours	More than four hours
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10. A $+25 \mu\text{C}$ and a $-45 \mu\text{C}$ point charge are 4.0 metres apart. What is the strength and direction of the electric field:

a. 1.0 metres from the $+25 \mu\text{C}$ charge?

b. 2.0 metres from the $+25 \mu\text{C}$ charge?

c. 3.0 metres from the $+25 \mu\text{C}$ charge?

11. A $+25 \mu\text{C}$ and a $+45 \mu\text{C}$ point charge are 4.0 metres apart. What is the strength and direction of the electric field:

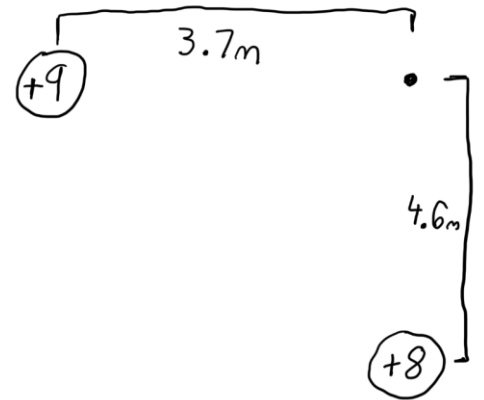
a. 1.0 metres from the $+25 \mu\text{C}$ charge?

b. 2.0 metres from the $+25 \mu\text{C}$ charge?

c. 3.0 metres from the $+25 \mu\text{C}$ charge?

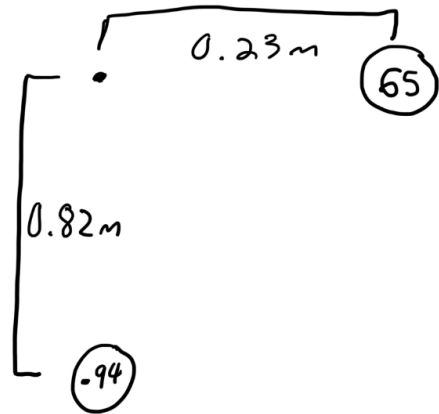
12. A $3.0 \mu\text{C}$ and a $-4.0 \mu\text{C}$ charge are 2.6 metres apart. What is the strength and direction of the electric field halfway between the two charges?

13. What is the strength and direction of the electric field 3.7 metres to the East of a $9.0 \mu\text{C}$ charge and 4.6 metres to the North of a $8.0 \mu\text{C}$ charge.

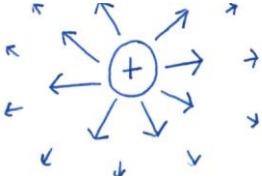
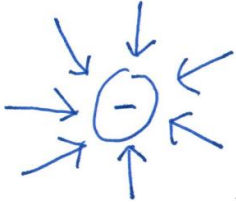


14.

- a. What is the strength and direction of the electric field 0.23 metres to the West of a $65 \mu\text{C}$ charge, and 0.82 metres to the North of a $-94 \mu\text{C}$ charge?



- b. If a $2.0 \mu\text{C}$ charge was placed in that location what would be the electric static force (magnitude and direction) acting on it?
- c. If a $-2.0 \mu\text{C}$ charge was placed in that location what would be the electric static force (magnitude and direction) acting on it?

Answer Key				
1) 	2) 	3a) Away	3b) 9.0×10^5 N/C	4a) Towards
4b) 2.0×10^5 N/C	5) Acceleration depends on mass which is also what gravitational attraction depends on. However in an electric field acceleration is determined by both mass and charge	6) 1.4×10^6 N/C	7) 1.02×10^6 N/C	8) 1.8 m/s^2
9a) 1.1 m	9b) 19 m	9c) 45 m	10a) 2.7×10^5 N/C towards the $-45 \mu\text{C}$ charge	10b) 1.6×10^5 N/C towards the $-45 \mu\text{C}$ charge
10c) 4.3×10^5 N/C towards the $-45 \mu\text{C}$ charge	11a) 1.8×10^5 N/C towards the $45 \mu\text{C}$ charge	11b) 4.5×10^4 N/C towards the $25 \mu\text{C}$ charge	11c) 3.8×10^5 N/C towards the $25 \mu\text{C}$ charge	12) 3.7×10^4 N/C towards the $-4 \mu\text{C}$ charge
13) 6.8×10^3 N/C, 30° North of East	14a) 1.1×10^7 N/C, 6.5° South of West	14b) 22 N, 6.5° South of West	14c) 22 N, 6.5° North of East	