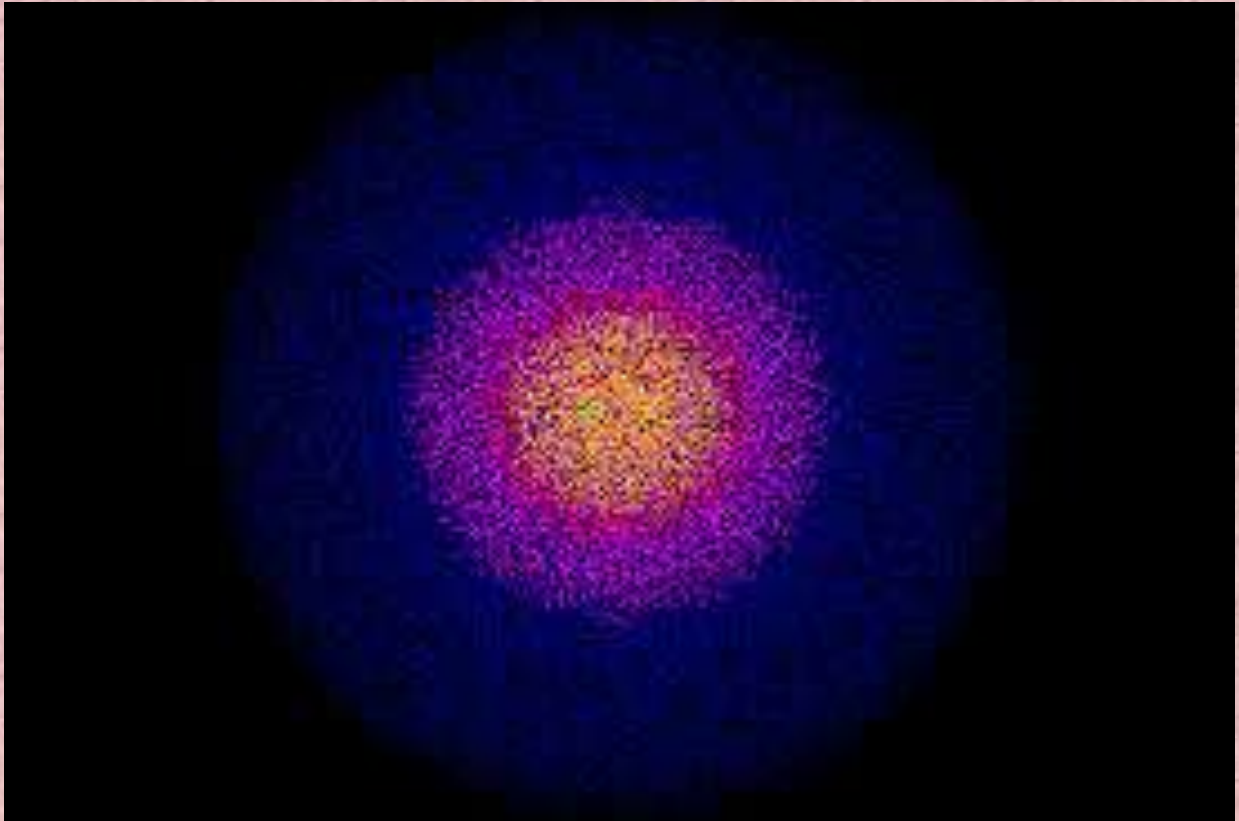


Φυσική Γενικής Παιδείας Β΄ Λυκείου
Τράπεζα θεμάτων



Φώτης Μπαμπάτσικος

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**Τα Δ θέματα της τράπεζας στις δυνάμεις
μεταξύ ηλεκτρικών φορτίων**

μ μ

μ μ

4_15580

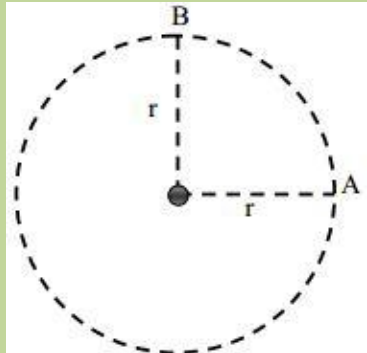
$Q_1 = 2 \mu\text{C}$ $Q_2 = 8 \mu\text{C}$,
 $r = 30 \text{ cm}$

- 1) $q = -2,5 \mu\text{C}$
- 2) $q = -2,5 \mu\text{C}$
- 3) Q_1 Q_2
- 4) q Q_1 Q_2

$K = 9 \cdot 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2$

4_15558

$Q = -2 \mu\text{C}$, $r = 10 \text{ cm}$.



- 1) $q = -1 \mu\text{C}$
- 2)
- 3)
- 4)

$k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$

4_15555

$q_1 = 16 \mu\text{C}$, $q_2 = 1 \mu\text{C}$,
 $r = 12 \text{ cm}$,
 $k = 9 \cdot 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2$

- 1)

2)	μ	μ	8
3)	μ	$q_1,$	5
4)	$\mu\mu$	μ	8

4_15554

$Q = 0,1 \mu$ $r_1 = 3 \text{ cm}$

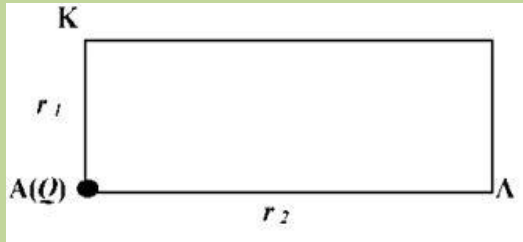
$r_2 = 6 \text{ cm}$
 $k = 9 \cdot 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2$

1) $Q,$ μ μ 8

2) μ μ μ 4

3) μ V μ 6

4) $q,$ μ $q = -2 \mu\text{C}$ $Q,$ μ 7



4_15552

$Q = 4 \mu\text{C}.$

1) μ Q 2 cm μ 6

2) μ μ μ $q_1 = -2 \text{ nC}.$ μ 6

3) μ μ μ $Q,$ μ 6

4) μ μ μ q μ 6

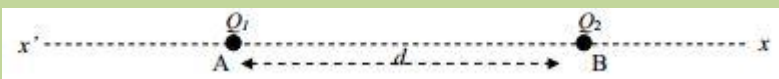
$k = 9 \cdot 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2$ $1 \text{ nC} = 10^{-9} \text{ C}.$

4_15549

$Q_1 = 3 \mu\text{C}$ $Q_2 = -6 \mu\text{C},$

$x'x$ $d = 3 \text{ cm}.$

$k = 9 \cdot 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2$



1) Q_1 Q_2 μ μ μ μ 6

2) μ μ μ μ μ μ μ μ μ μ 6

3) μ μ μ μ μ μ μ μ μ μ 7

4) $q = 2 \mu C$ μ μ μ μ μ μ μ 6

$k = 9 \cdot 10^9 \frac{N \cdot m^2}{C^2}$

4_15510

$q = -10^{-6} C$

$V_A = 100 V$

$W_{AB} = 7 \cdot 10^{-4} J$

$= 10^4 N/C$

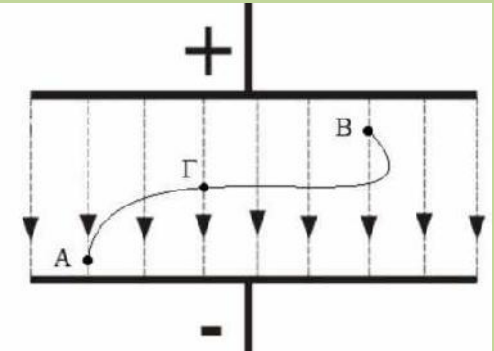
1) μ μ μ μ μ μ μ μ μ μ 8

2) μ μ μ μ μ μ μ μ μ μ 9

3) μ μ μ μ μ μ μ μ μ μ 8

$(B \rightarrow \Gamma \rightarrow A)$

W_{ab}



4_15453

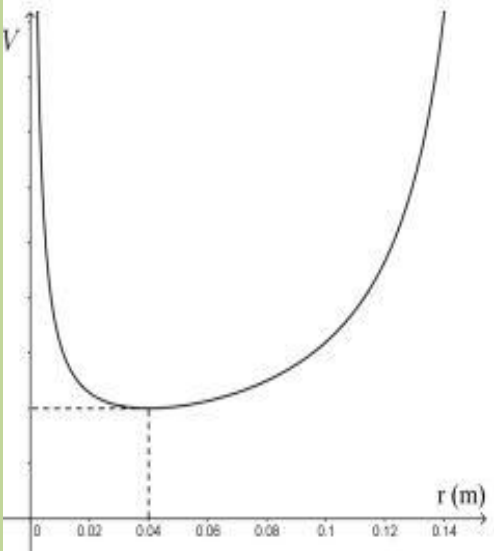
$q_1 = +2\mu\text{C}$ $q_2 = +18\mu\text{C}$
 $k = 9 \cdot 10^9 \frac{\text{N} \cdot \text{m}^2}{\text{C}^2}$
 $r = 16 \text{ cm.}$

1) 4 cm 6

2) 4 cm 6

3) r A.

4) $q = +1\mu\text{C}$ 6



4_15447

$q_1 = 20\mu\text{C}$ $q_2 = -80\mu\text{C}$
 -24 J.

1) r 5

2) q_1 6

3) q_2 7

4) q 7

4_15459

$E_A = 36 \cdot 10^5 \text{ /C.}$
 $q = 10^6 \text{ C,}$
 $V_A = 36.104 \text{ V.}$
 $r = 2r$

1) Q 6

2) Q 6

3) q 6

Q. μ μ q

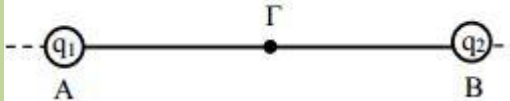
4) μ μ

q μ

μ $k = 9 \cdot 10^9 \frac{N \cdot m^2}{C^2}$.

4_15386

$q_1 = 3 \cdot 10^{-9} C$ $q_2 = 27 \cdot 10^{-9} C$



μ μ , μ μ

μ q_1 q_2 μ μ μ μ

μ 2 cm. μ Coulomb $k = 9 \cdot 10^9 \frac{N \cdot m^2}{C^2}$.

1) μ μ μ μ μ μ

μ q_1 q_2 μ μ μ μ

2) μ μ μ μ μ μ

μ , μ μ μ q_1 q_2 μ μ

3) μ μ μ μ μ μ $q = -2 \cdot 10^{-12} C$.

μ q_1 q_2 μ μ μ μ

μ μ μ μ μ μ q_1 q_2 = 21,6

kV. μ q_1 q_2 μ μ μ μ $V_z = 25,6$ kV.

4) μ μ μ μ μ μ


μ q_1 q_2 μ μ μ μ

4_15384

μ $Q_1 = 12 \mu C$ $Q_2 = -3 \mu C$

μ () μ μ

: = r = 3cm $k = 9 \cdot 10^9 \frac{N \cdot m^2}{C^2}$.



1) μ μ μ μ μ μ

μ Q_1 Q_2 .

2) μ μ μ μ μ μ

μ Q_1 Q_2 μ μ μ μ μ μ μ μ

μ μ μ μ μ μ μ μ μ μ

3) μ μ μ μ μ μ $q = -2 \mu C$.

μ Q_1 Q_2 μ μ μ μ μ μ

4) μ μ μ μ μ μ () μ μ μ μ

μ μ μ μ μ μ μ μ Q_1 Q_2 .

3)	μ	6
4)	$V = V - V$	6

4_15362

$k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$, $q_1 = 2 \mu\text{C}$, $q_2 = -1 \mu\text{C}$, $r = 3 \text{ m}$.

1)	μ	6
2)	μ	6
3)	μ	7
4)	μ	6

4_15356

$q_1 = 4 \mu\text{C}$, $q_2 = 1 \mu\text{C}$, $q_3 = -1 \mu\text{C}$, $k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$.

1)	q_1	6
2)	q_2	6
3)	q_1	6
4)	q_3	7

4_15354

$q_1 = 1 \mu\text{C}$, $q_2 = -4 \mu\text{C}$, $k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$, $r = 3 \text{ m}$.

1)	μ	6
2)	q_2	6
3)	q_1	6
4)	μ	7

4_15353

$q_1 = 4 \mu\text{C}$, $q_2 = 1 \mu\text{C}$, $r = 3 \text{ m}$.

1)	μ	5
2)	μ	6
3)	$V - V$	6
4)	q_2	6

4)

q_1, q_2, q

$k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$

8

4_15345

1) -6 V

2) 2 N/C

3) 6 m , $q = -1 \text{ nC}$

4) $k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$, $1 \text{ nC} = 10^{-9} \text{ C}$

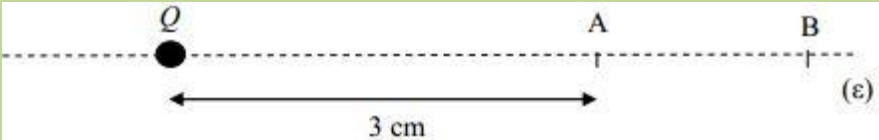
5

9

5

6

4_15332



1) $Q = +4 \mu\text{C}$

2) $q = +2 \mu\text{C}$

3) $1,6 \text{ J}$

4) $k = 9 \cdot 10^9 \frac{\text{N} \cdot \text{m}^2}{\text{C}^2}$

6

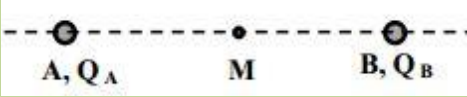
6

7

6

4_15329

$Q_B = q$, $Q_A = 16q$



6

), μ 360 , $d = 2 \text{ cm}$. μ μ

1) μ 5

2) μ μ μ μ 6

3) μ μ , 8

4) $q_1 = 1 \mu\text{C}$ μ μ M. 6

$$k = 9 \cdot 10^9 \frac{\text{N} \cdot \text{m}^2}{\text{C}^2}$$

4_15309

μ Q , r

μ μ , μ $r/2$ $r/3$

1) μ (μ) μ V V Q . 6

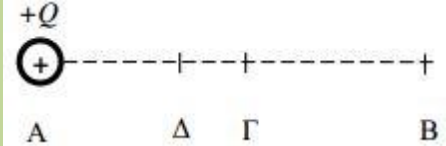
2) μ ($Q = q$) μ V V Q q . 6

3) μ q , q μ μ Q . μ : 7

4) μ Q q 6

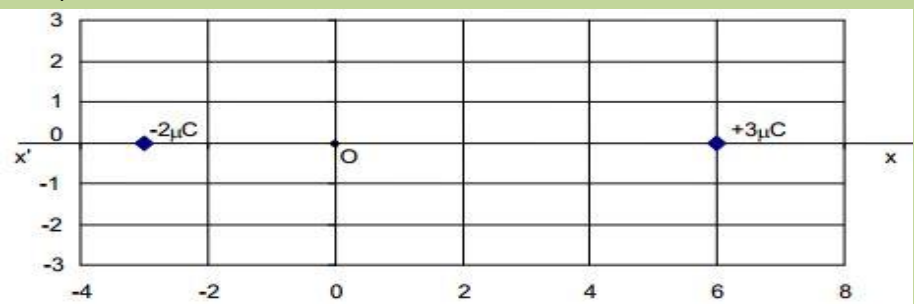
$k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$, $Q = 2 \mu\text{C}$

$r = 30 \text{ cm}$.



4_14732

μ $q_1 = -2 \mu\text{C}$ $q_2 = +3 \mu\text{C}$,
 $x_1 = -3 \text{ m}$ $x_2 = +6 \text{ m}$ x x ,
 μ .



Θέση φορτίων σε m

1) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ (0,0). 5

2) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ (0,0). 7

3) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ 7

4) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ 7

$k = 9 \cdot 10^9 \text{ Nm}^2/\text{C}^2$

4_15327

1) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ 5

2) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ 7

3) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ 7

4) $Q = 6 \mu\text{C}$, $Q_2 = -5 \mu\text{C}$, $Q_1 = 1 \mu\text{C}$, $q = 1 \mu\text{C}$ 7

$k = 9 \cdot 10^9 \frac{\text{N} \cdot \text{m}^2}{\text{C}^2}$