

AMTAD

1. Interaction between things that are physically apart.
2. There is contact between the object and the field.
3. Both exert forces.
4. It has magnitude & forces.
5. a. Lines depicting electric fields.
b. They are the same (that's the point)
6. Closer lines = stronger field.
7. Parallel / straight equally spaced.



8. The charges outside are mutually repelled. Inside, electric fields cancel to \emptyset .
9. a. No. Gravity cannot be shielded
b. Yes.
10. The field cancels to zero.

11. $W = \Delta E$

12. It transforms to K.E.

13. Electrical potential is electrical potential energy per charge.

OMIT

14. Electrical Potential is $\frac{PE}{\text{charge}}$.

15. Volt

16. No it is as if a test charge is present.

17. Ratio can be high when charge is small.

18. They are equal.

OMIT

19. None on inside, they all repel to outside.

20. About 3 million volts

AMFAD

* 35. 10 J of W
1 C
What is V?
What is KE?

$$V = \frac{1 \text{ J}}{1 \text{ C}} = \frac{W}{q}$$

$$= \frac{10 \text{ J}}{10 \text{ C}}$$

a. $V = 10 \text{ Volts}$

b. $KE = PE$

so 10 J

* 44. $5.0 \times 10^7 \text{ V}$
 3.0 C Released

a. $V = \frac{W}{q} \Rightarrow W = qV$

$$W = (3.0 \text{ C})(5.0 \times 10^7 \text{ V})$$

$$= 1.5 \times 10^8 \text{ J}$$

b. (work)
 $KE = \frac{1}{2} m v^2$

$$v = \sqrt{2W/m}$$

$$v = \sqrt{\frac{2(1.5 \times 10^8 \text{ J})}{3500 \text{ kg}}}$$

$$v = 290 \text{ m/s}$$