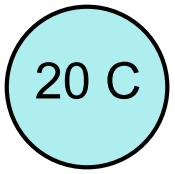
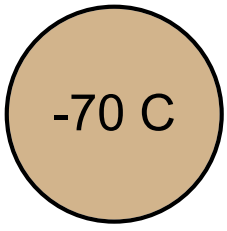




If the two charged objects are conductors, what will be the final charge on each? How much charge was transferred? How many electrons were transferred?

90 C

20 → 45

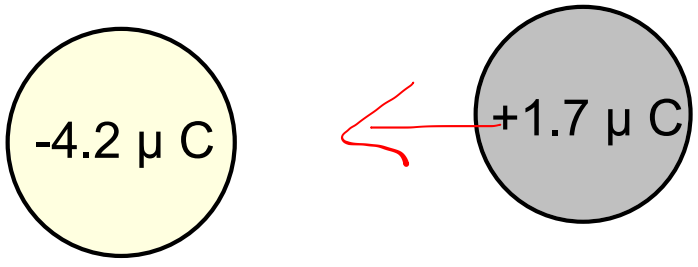
-70 → 45

-25 C

$1e^- = 1.6 \times 10^{-19}$ C

$\frac{45\text{C}}{1} \times \frac{1e^-}{1.6 \times 10^{-19}\text{C}}$

Two tiny conducting spheres are identical and carry charges of -4.2 μC and + 1.7 μC. They are separated by a distance of 5.1 cm.



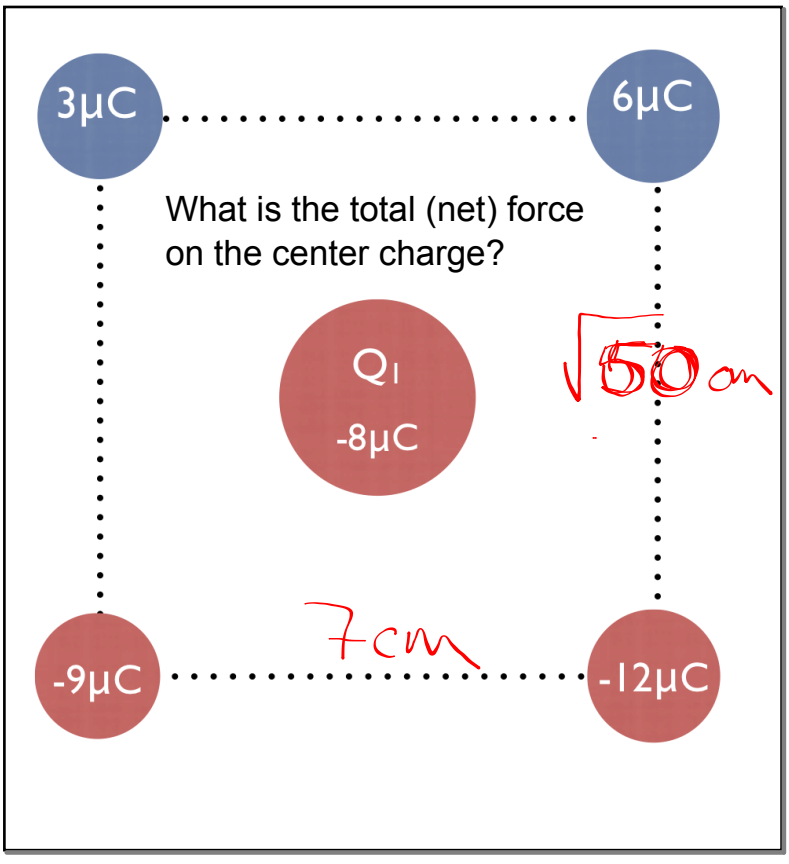
$$F = k\frac{Qq}{r^2}$$

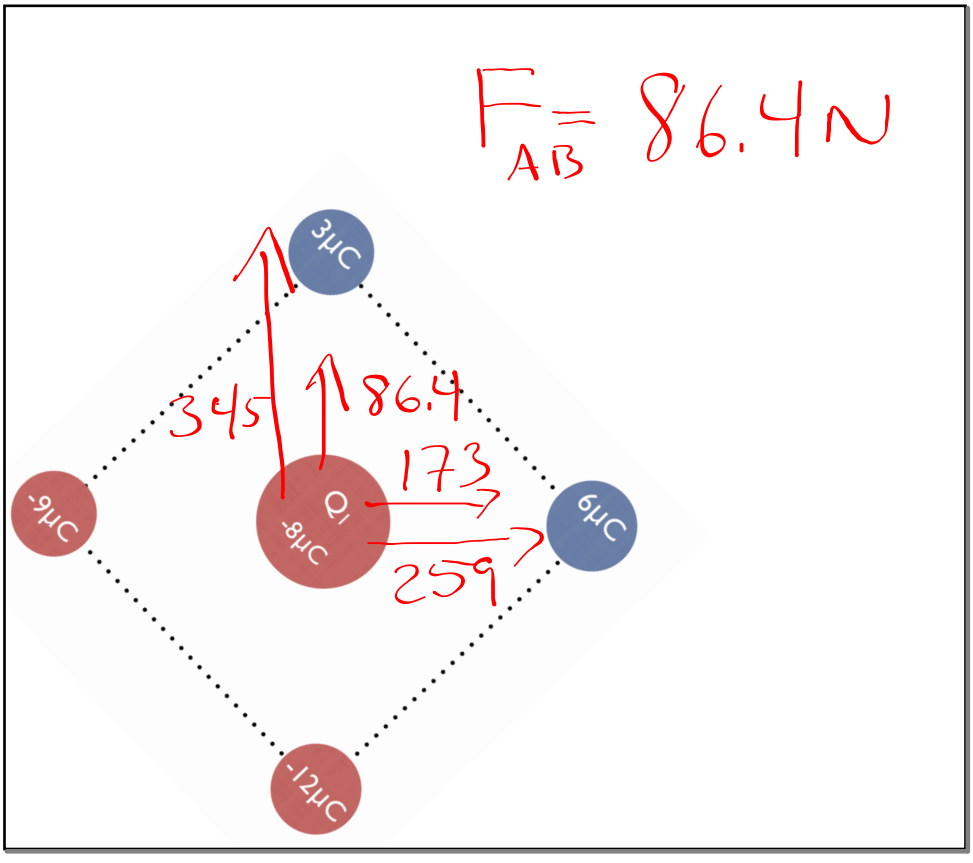
$$F = \frac{9\times10^{9}\left(-4.2\times10^{-6}\right)\left(1.7\times10^{-6}\right)}{(.051\,m)^2}$$

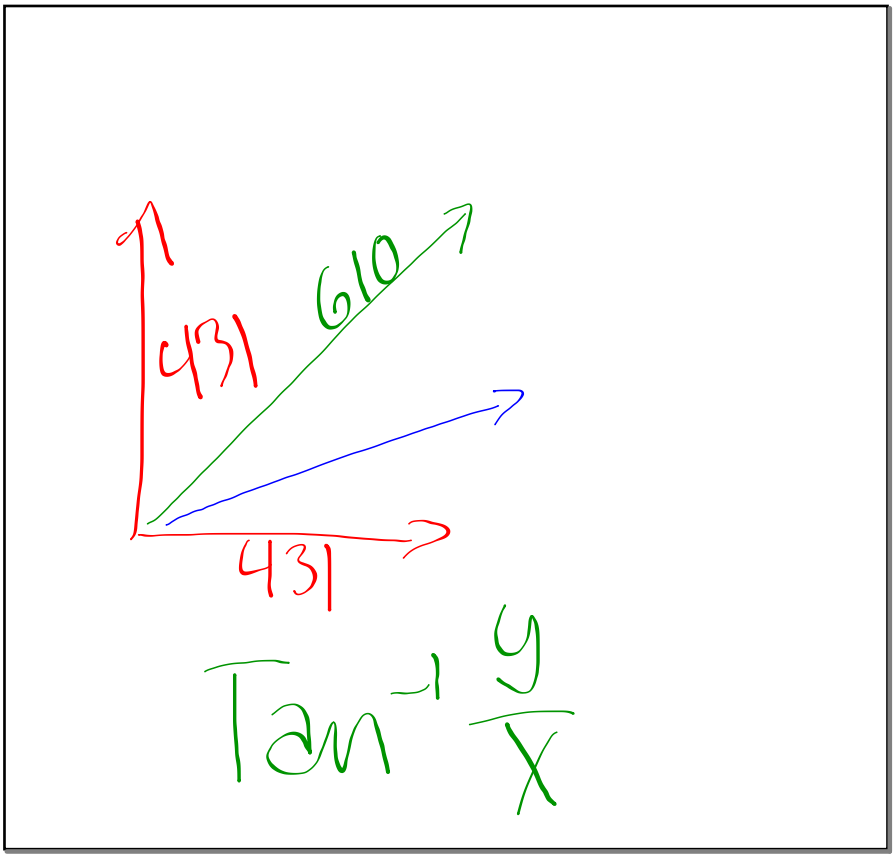
$$+24.7\,N,\ \text{LEFT}$$

What is the magnitude of the force that each sphere experiences, and is the force attractive or repulsive?

The spheres are brought into contact and then separated to a distance of 5.1 cm. Determine the magnitude of the force that each sphere now experiences, and state whether the force is attractive or repulsive


3μC
6μC
What is the total (net) force on the center charge?
Q1
-8μC
√50 cm
7cm
-9μC
-12μC


F_AB = 86.4N
3μC
345
86.4
173
Q1
-8μC
6μC
259
-9μC
-12μC



An object has a charge of $-2.1\ \mu$C.

How many electrons must be removed so that the charge becomes $+3.1\ \mu$C?