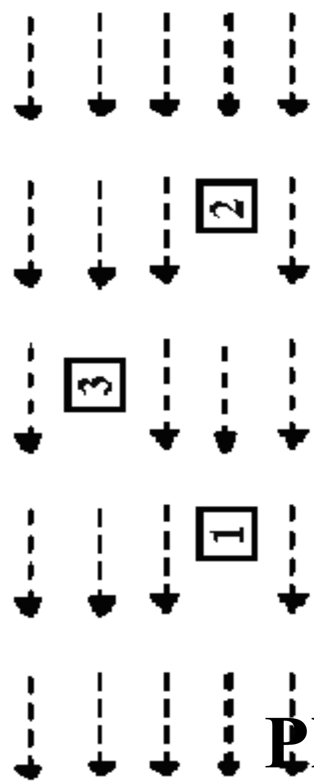
When a positive test charge is released from rest near a (fixed) positive source charge, what happens to the <u>electric potential</u> of the positive test charge?

A. It will increase because the charge will move in the direction of the electric field.
B. It will decrease because the charge will move in the direction opposite to the electric field.
C. It will decrease because the charge will move in the direction of the electric field.
D. It will remain constant because the electric field is uniform.
E. It will remain constant because the charge remains at rest.

When a negative test charge is released from rest near a (fixed) positive source charge, what happens to the <u>electric potential</u> of the negative test charge?

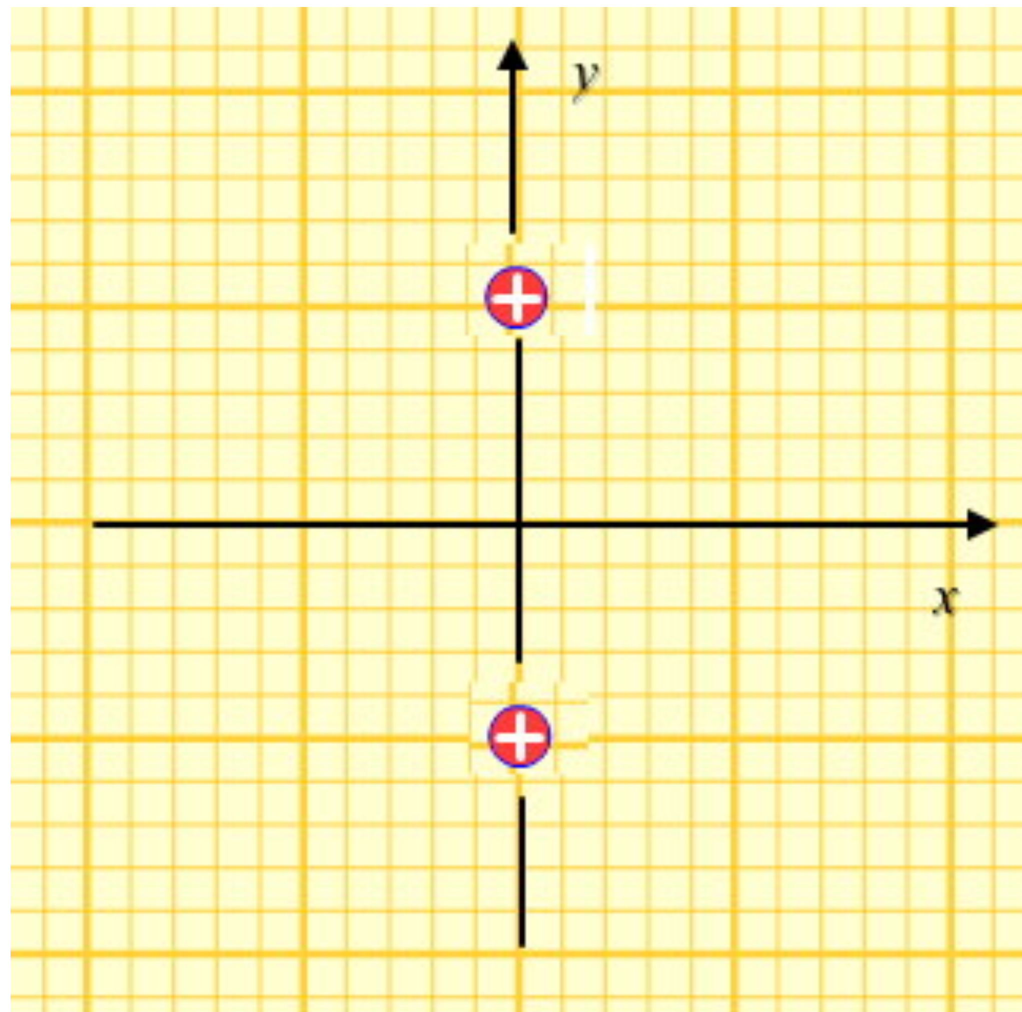
A. It will increase because the charge will move in the direction of the electric field.
B. It will decrease because the charge will move in the direction opposite to the electric field.
C. It will decrease because the charge will move in the direction of the electric field.
D. It will increase because the charge will move in the direction opposite to the electric field.
E. It will remain constant because the charge remains at rest.

A massive object might be placed at one of three spots in a region where there is a uniform gravitational field.
How do the gravitational potentials, $V = gh$, on the masses at positions 1, 2, and 3 compare?

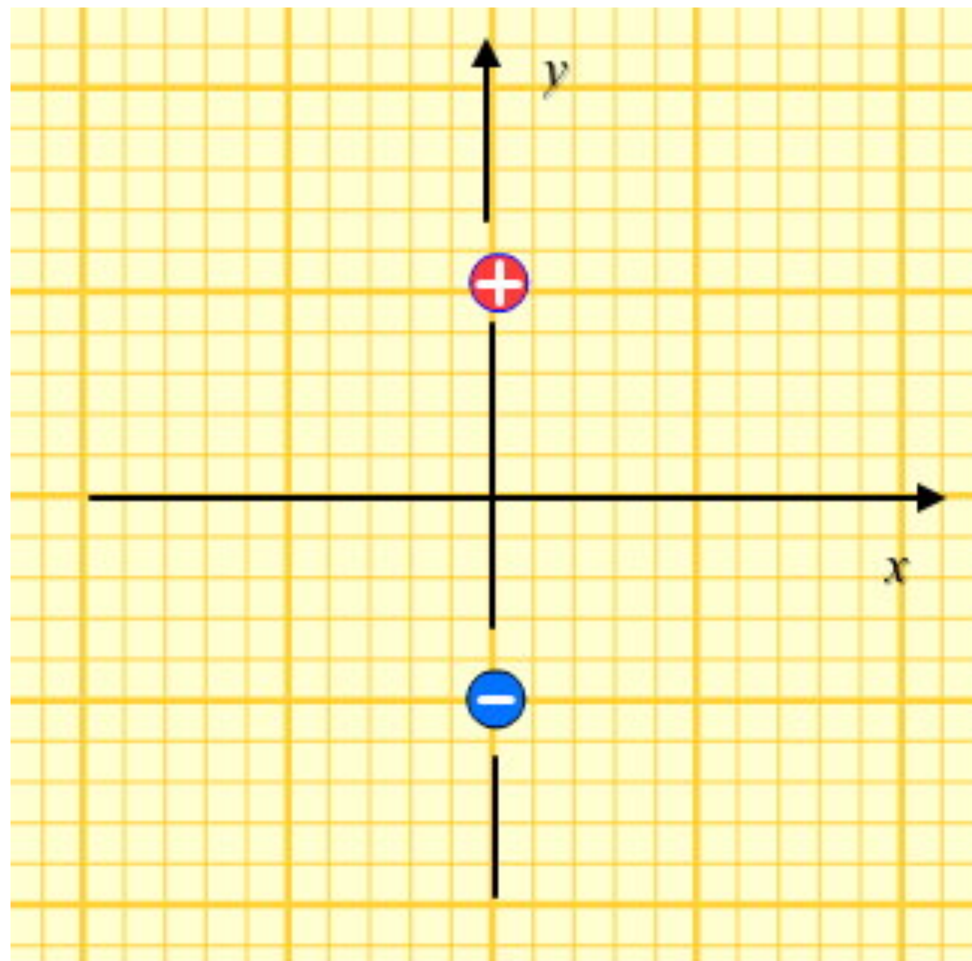


A. V is greatest at 1
B. V is greatest at 2
C. V is greatest at 3
D. V is 0 at all 3 spots
E. V is = at all 3 spots but not = 0.

What would the graph of the electric *potential* look like along the *x* axis?



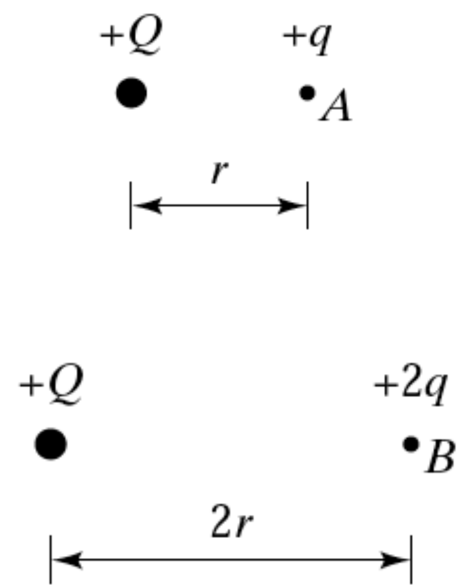
What would the graph of the electric *potential* look like along the *x* axis?



Two test charges are brought separately into the vicinity of a charge $+Q$. First, test charge $+q$ is brought to point A a distance r from $+Q$.
Next, $+q$ is removed and a test charge $+2q$ is brought to point B a distance $2r$ from $+Q$.

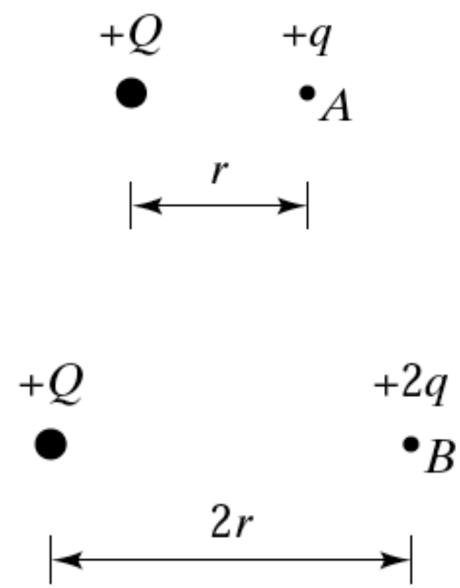
Compared with the electrostatic potential of the charge at A, that of the charge at B is

A. greater
B. smaller
C. the same
D. you can't tell from the information given



Two test charges are brought separately into the vicinity of a charge $+Q$. First, test charge $+q$ is brought to point A a distance r from $+Q$.
Next, $+q$ is removed and a test charge $+2q$ is brought to point B a distance $2r$ from $+Q$.

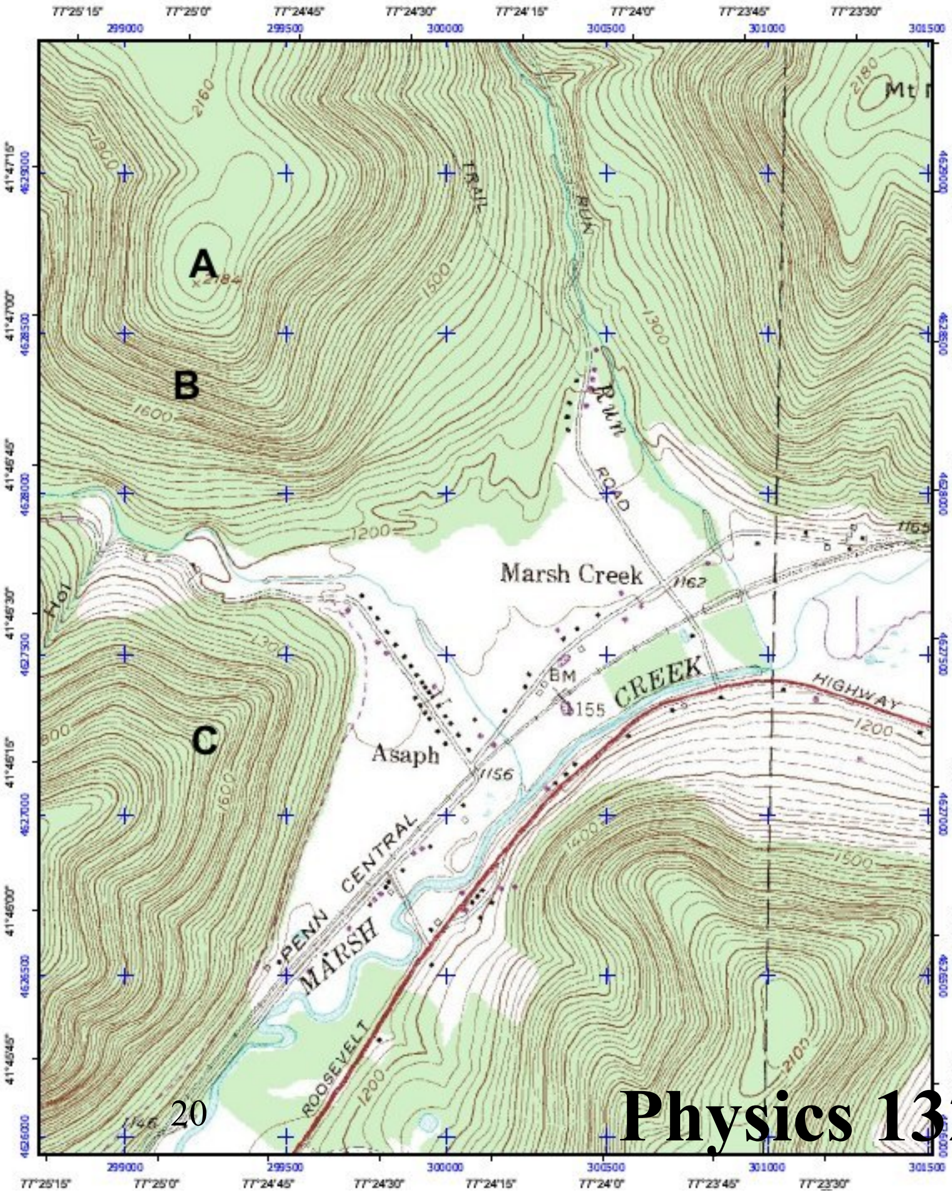
Compared with the <u>electrostatic potential energy</u> of the charge at A, that of the charge at B is



A. greater
B. smaller
C. the same
D. you can't tell from the information given

Topo map = grav PE graph (2D)

At which point is the force downhill the strongest?



A. A
B. B
C. C

Topo map = grav PE graph (2D)

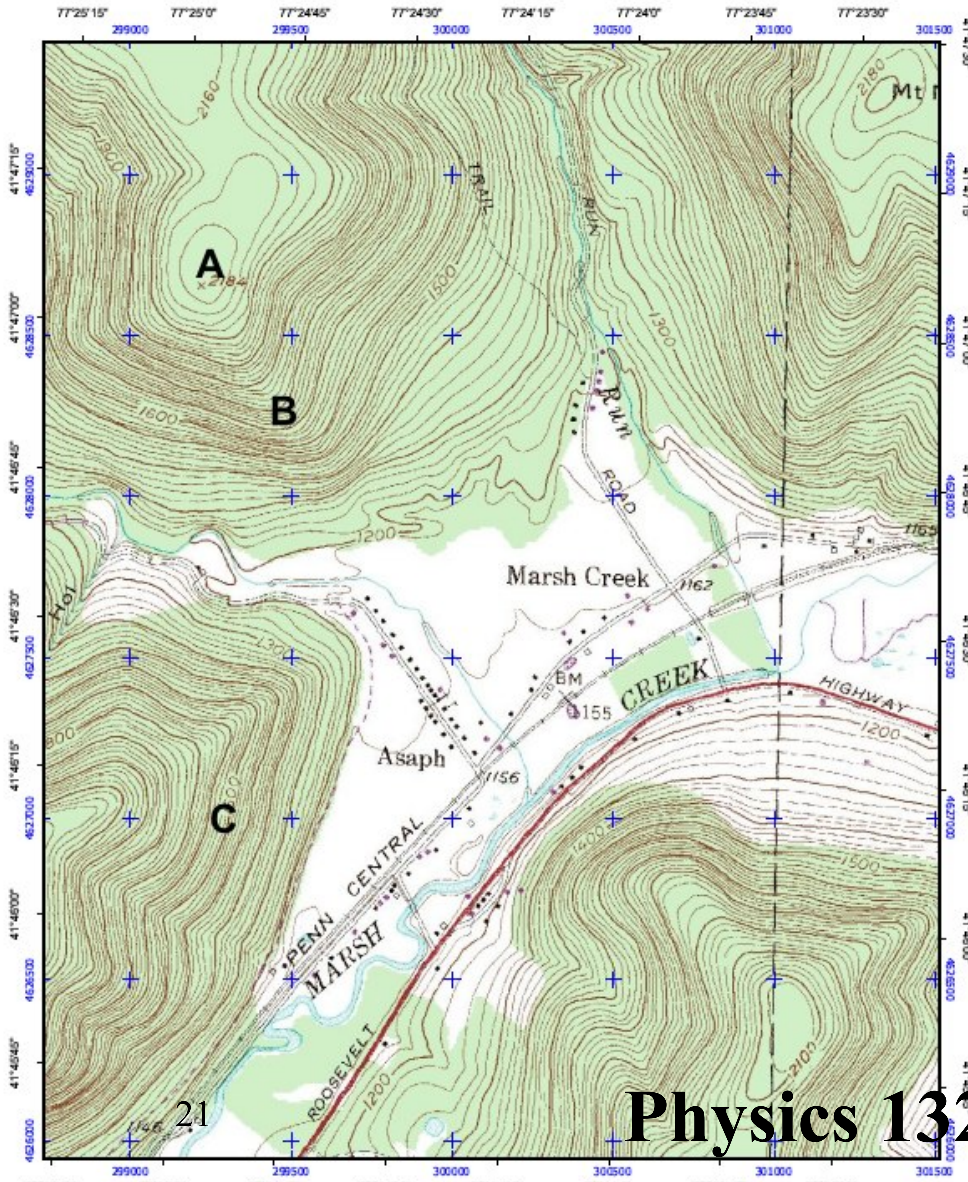
At which point is the force downhill pointing to the east? (North is up)

A. A

B. B

C. C

D. None



Topo map = grav PE graph (2D)

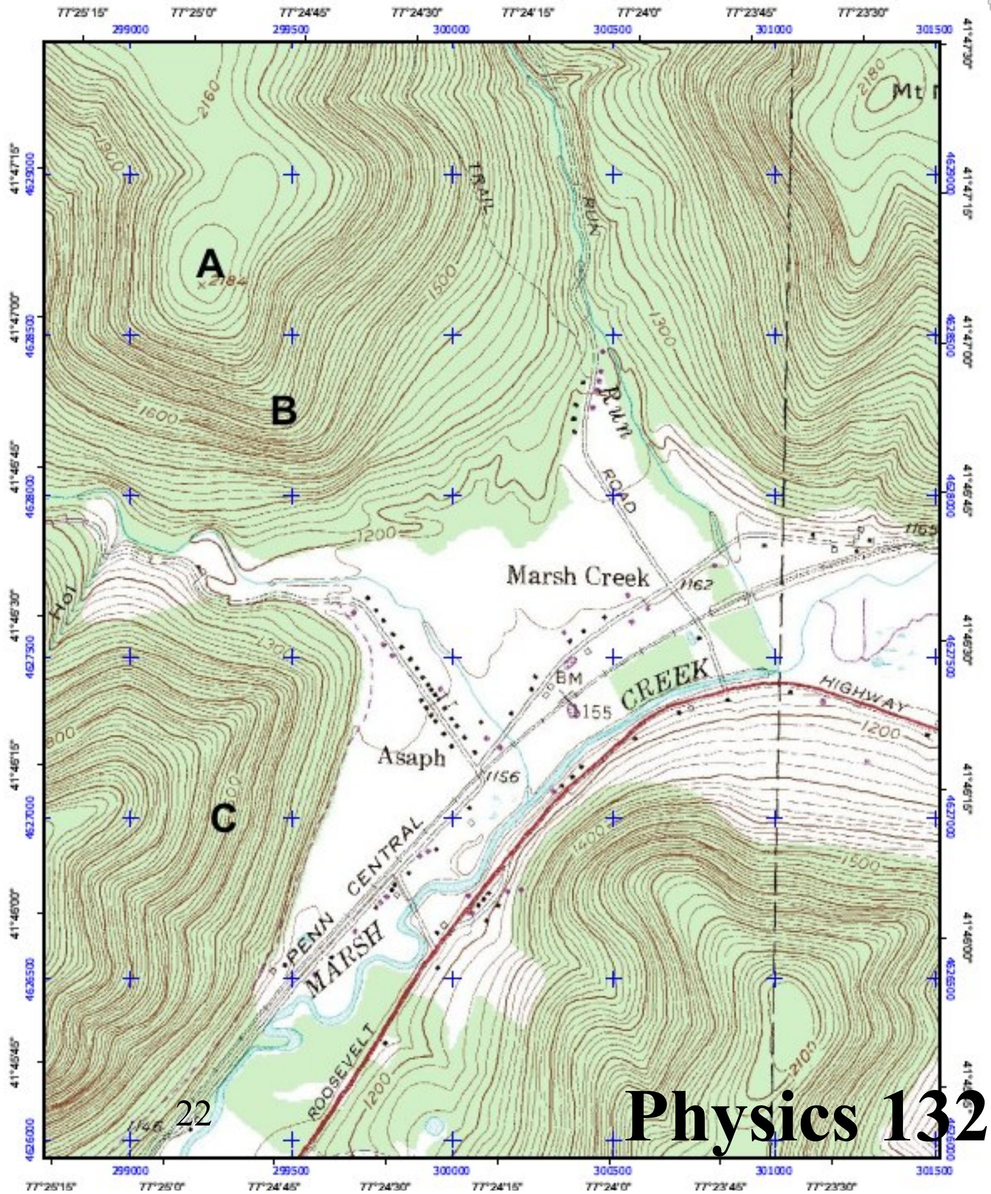
At which point is the force downhill pointing to the north? (North is up)

A. A

B. B

C. C

D. None



Consider the electric field near a long line of uniform charge, λ. Which of these has the right dimensions? ($[\lambda] = Q/L$)

A. $E = 2k_C\lambda / d^3$

B. $E = 2k_C\lambda / d^2$

C. $E = 2k_C\lambda / d$

D. $E = 2k_C\lambda$

E. None of these