Clicker Questions

Clicker Question 1

An antiderivative we'll need later

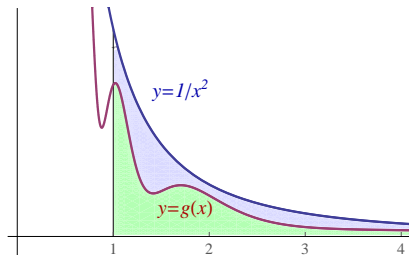Find an antiderivative of $\dfrac{-e^x}{(1+e^x)^2}$.

A. $\tan^{-1}(e^x)$

B. $\dfrac{1}{1+e^x}$

C. $-\ln\left((1+e^x)^2\right)$

D. $\ln|1+e^x| - \dfrac{1}{(1+e^x)^2}$

E. none of the above

Clicker Question 2

Comparing two improper integrals

We saw Friday that $\int_1^\infty \frac{1}{x^2}\,dx$ is convergent. Suppose that $0 \le g(x) \le \frac{1}{x^2}$ for all $x \ge 1$. What do you think we can say about

$$\int_1^\infty g(x)\,dx\,?$$

A. might be convergent or divergent, depending on the formula for $g(x)$

B. definitely convergent

C. has a negative value

D. impossible to tell, even with the formula for $g(x)$

E. definitely divergent

Clicker Question 3

Just a moment

A 6-gram object is placed 3 cm to the right of the origin, and a 14-gram object is placed 2 cm to the left of the origin. How much mass must be placed 1 cm to the right of the origin to make the **total moment** (with respect to the origin) **equal to 0**?
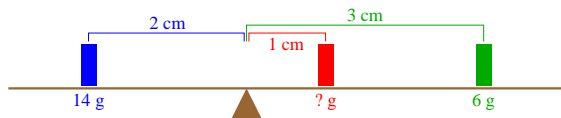
A. 10 grams

B. 5 grams

C. 8 grams

D. 44 grams

E. none of the above