2. [5 points] Compute the following limit. Fully justify your answer including using **proper limit notation**.

$$\lim_{x\to\infty} 7x \ln\left(1+\frac{6}{x}\right)$$

Answer: $\lim_{x\to\infty} 7x \ln\left(1+\frac{6}{x}\right) =$ _____

3. [7 points] **Compute** the value of the following improper integral if it converges. If it does not converge, use a **direct computation** of the integral to show its divergence. Be sure to show your full computation, and be sure to use **proper notation**.

$$\int_2^{10} \frac{1}{(t-2)^{1/3}}\,\mathrm{d}t$$

Circle one: **Diverges** **Converges to** _____