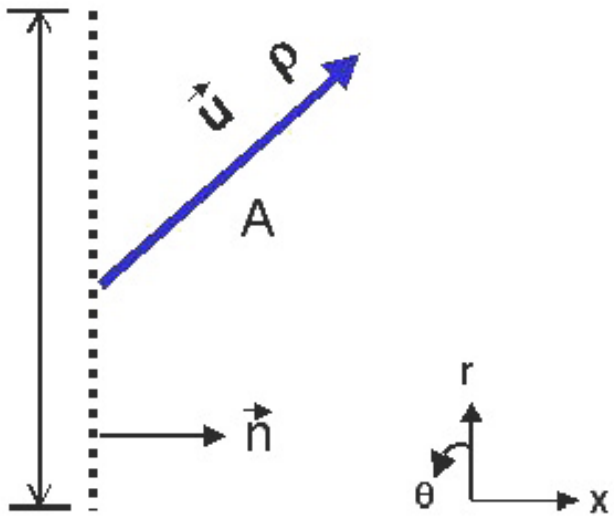
Chapter 9, Question 1: Angular Momentum

$$\sum \bar{T} = \frac{\partial \bar{H}}{\partial t} + \int_s \rho \bar{r} \times \bar{u}(\bar{u} \cdot \bar{n}) ds$$

What is the x-component of angular momentum flux out of this surface?

1) $\rho A r u_x u_x$
2) $\rho A r u_r u_x$
3) $\rho A r u_r u_r$
4) $\rho A r u_r u_\theta$
5) $\rho A r u_\theta u_\theta$
6) $\rho A r u_x u_\theta$
7) I don't know



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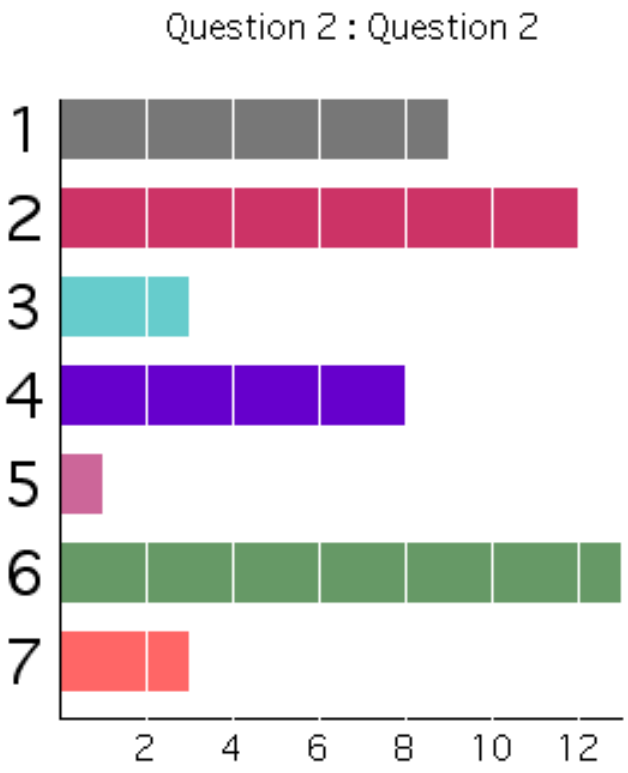
Chapter 9, Question 1 Answer:

The correct answer is 6) $\rho A r u_x u_\theta$

u dot n is u_x, the x-component of r x u is ru_θ

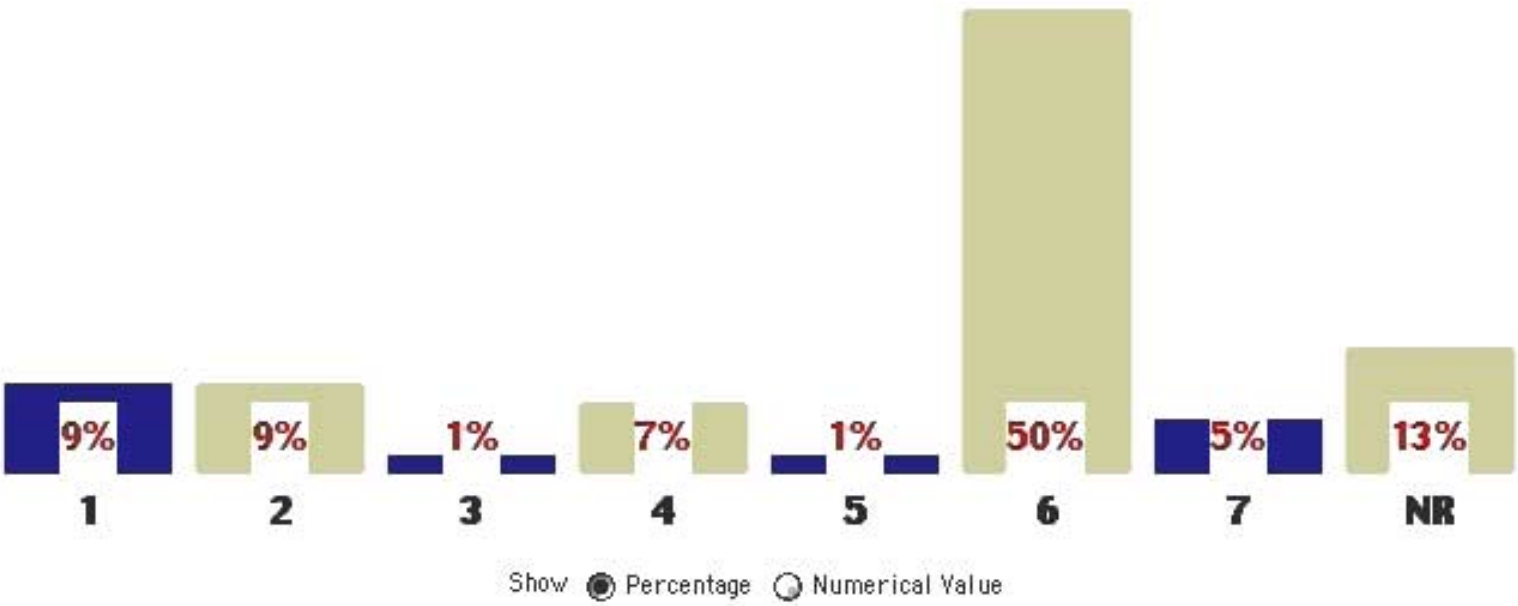
Class performance (2003):



Class performance (2001):

Quiz 1 started at 10:23:54 AM

52 students logged in.



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