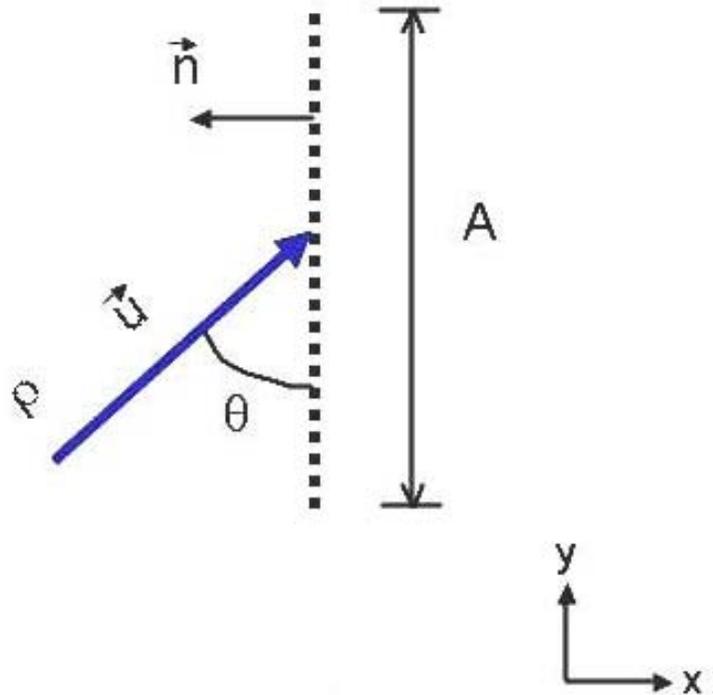# Chapter 2, Question 2:
Integral Momentum Equation

What is the y-component of momentum flux across this surface?

1) $-u^2(\rho A)\sin\theta \sin\theta$

2) $u^2(\rho A)\sin\theta \sin\theta$

3) $-u^2(\rho A)\cos\theta \cos\theta$

4) $u^2(\rho A) \cos\theta \cos\theta$

5) $-u^2(\rho A)\sin\theta \cos\theta$

6) $u^2(\rho A)\sin\theta \cos\theta$

7) I don't know

$\vec{n}$

A

$\vec{u}$

ρ

θ

y

x

L.O. B

Chapter 2, Question 2 Answer:

The correct answer is 5)
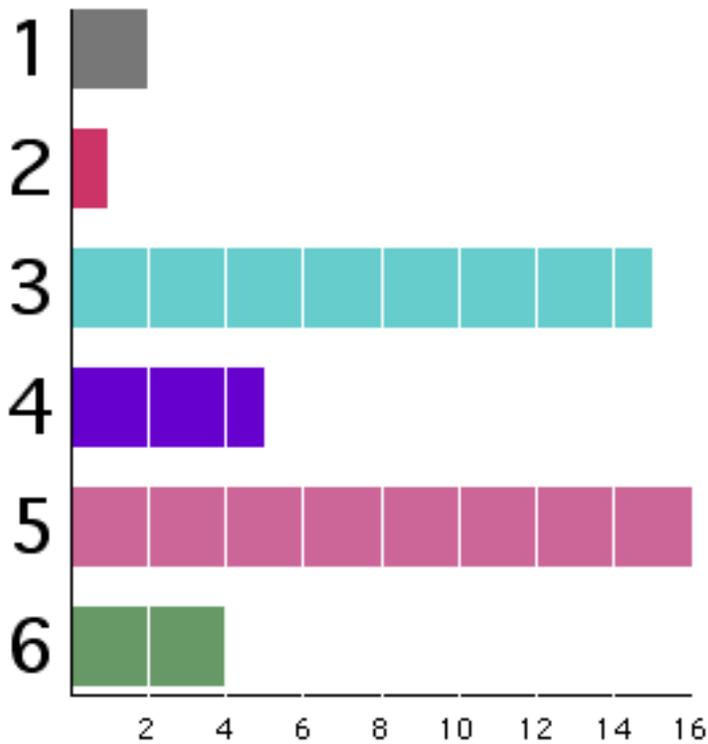
$u_y = u\cos\theta$, u dot n = $-u\sin\theta$

The flux is in opposite direction to the outward normal (therefore negative).

Class performance (2004):

Class Performance (2003):

Question 3 : Question 3

Class performance (2001):

Question 3 : Question 3

1	3
2	3
3	6
4	10
5	7
6	14
7	3