

Boat in River!

a timeless tale in four scenes...

Scene 2:
Heading
Upstream

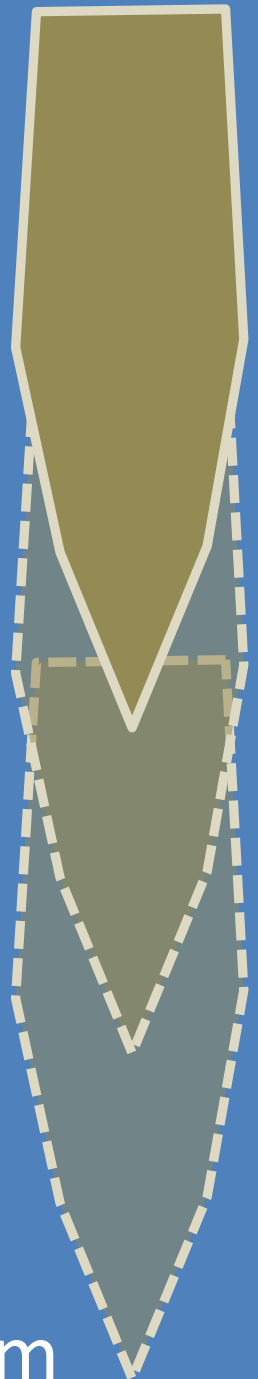
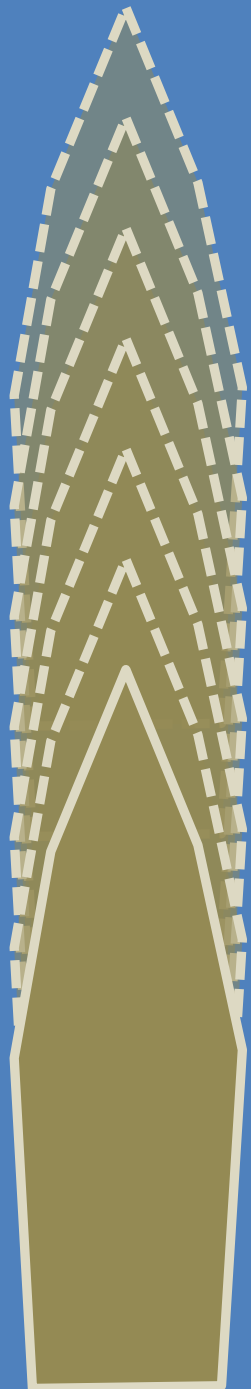


To travel an equal
distance takes 3.0
times longer moving
upstream, compared
to downstream.

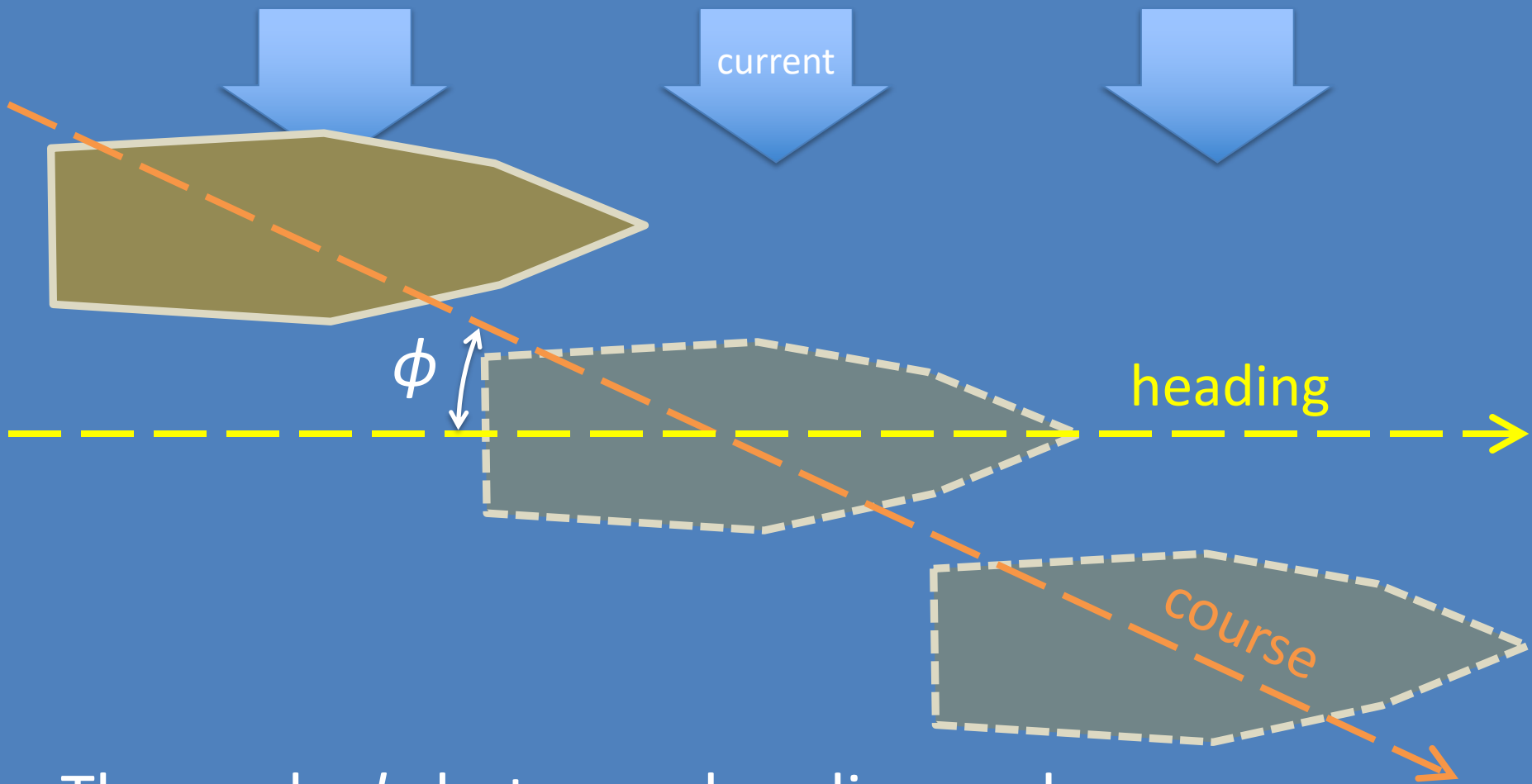
Assume the speed through
water is the same in each
scene – how many times
greater is this speed than
that of the river current?



Scene 3:
Heading
Downstream

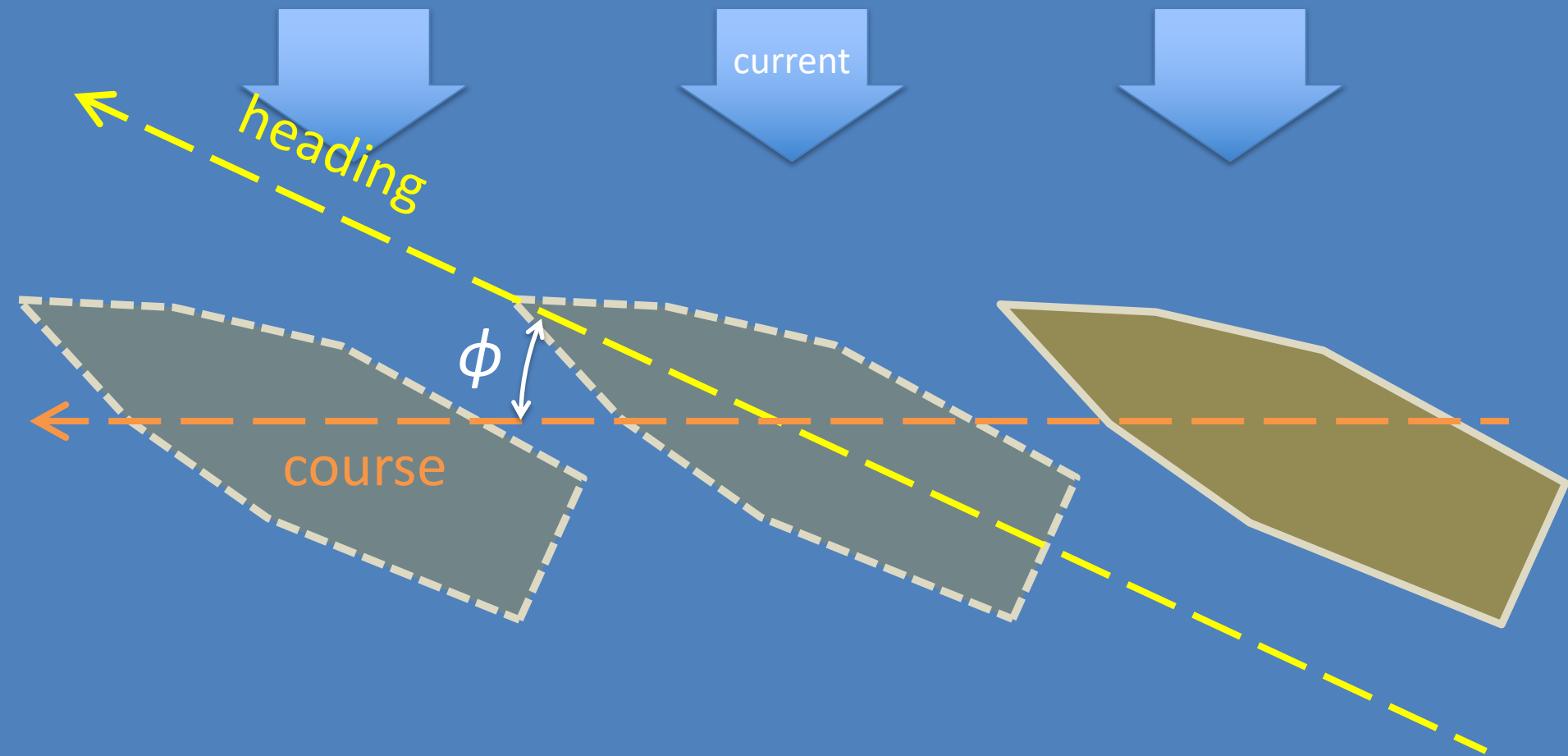


Scene 4: Heading Directly Across River



The angle ϕ , between heading and course, is greater in Scene 4 or Scene 5? Or is it equal? Support argument with physics!

Scene 5: Moving Directly Across River



The angle ϕ , between heading and course, is greater in Scene 4 or Scene 5? Or is it equal? Support argument with physics!

The time to move upstream a certain distance (Scene 2) is 3.0 times greater than the time to move downstream the same distance (Scene 3). Assuming the speed of the boat through the water is the same in each scene, solve for:

- (a) course of the boat in Scene 4
- (b) heading of the boat in Scene 5
- (c) ratio of times to cross river Scenes 4 & 5
(Which way would get you across faster?)