How can a phasing manoeuvre can be conducted?

A	By making a Hohmann transfer	0	✓
B	By solving Lambert's problem	0	✓
C	By going to an orbit with a non-zero catch-up rate	0	✓
D	By going to an orbit with a zero catch-up rate	0	✗

What is the correct equation for approximate the catch-up between two objects on coplanar orbits?

A $\Delta r = 3.5\Delta v$. 0 ✗

B $\Delta x = 3\,\pi(r_{TGT} - a_{chaser})$. 0 ✓

C The equation for the 1st burn in a Hohmann transfer 0 ✗

D I have to solve Lambert's problem 0 ✗

You are in a spacecraft at the same altitude as the ISS, but 20 km behind. What should you do to catch up with it in 1 orbit?

A	Go to an elliptical orbit, with a SMA about 2 km above	0	✗
B	Go to an elliptical orbit, with a SMA 2 km below	0	✓
C	Go to an elliptical orbit, with a SMA 7 km above	0	✗
D	Go to an elliptical orbit, with a SMA 7 km above	0	✗
E	Can't be done!	0	✗

What would be the total Δv needed to conduct the rendevous from 20 km behind the ISS?

(Hint: remember the LEO approximation, Δr=3.5Δv)

A	Δv ~ 1.1 m/s	0	✓
B	Δv ~ 0.6 m/s	0	✗
C	Δv ~ 7.0 m/s	0	✗
D	Δv ~ 0.3 m/s	0	✗

You are in a spacecraft at the same altitude as the ISS, but 20 km behind. What happens if you increase the energy of your orbit by conducting one posigrade burn?

A	The final orbit will circular	0	✗
B	You will catch-up with the ISS	0	✗
C	You will fall behind the ISS	0	✓
D	The final orbit's period will be shorter	0	✗

You are an astronaut conducting an EVA to work on the station's solar panel. At some point you lose a tool by accident. It floats away from you towards the center of the Earth. What is the trajectory of that object relative to the ISS?

A	It will start trailing behind at a constant rate from the ISS	0	✗
B	It will start moving in front of the ISS at a constant rate	0	✗
C	It will make an orbit around the ISS and potentially hit the station 15 ISS-orbits later	0	✗
D	It will make an orbit around the ISS and potentially hit the station 1 ISS-orbits later	0	✓

What is the typical chaser configuration with respect to the target before starting a rendezvous?

A	Below and behind	0	✓
B	Below and ahead	0	✗
C	Above and behind	0	✗
D	On orbits with different inclinations	0	✗

What does LVLH mean?

A	A geocentric non-inertial frame	0	✗
B	A Local Vertical Local Horizontal comoving reference frame	0	✓
C	Louis Vuitton Moët Hennessy	0	✗
D	A helocentric inertial frame	0	✗

What are debris-generating events?

A	The process of removing non-operational satellites from orbit	0	✗
B	A process that add inert pieces on orbit	0	✓
C	E.g. a satellite re-entry	0	✗
D	E.g. a rocket fragmentation	0	✓
E	E.g. a satellite collision	0	✓

What can you do to mitigate the debris risk?

A	Making sure the satellite exploses at the end of its mission	0	✗
B	Dispose of the satellite by re-entry or put it in a graveyard orbit	0	✓
C	Add redundancy to critical systems	0	✓
D	Make very large and very heavy satellites	0	✓