

Exercise walk-through

Technological Advances and the Age of Exploration ■ 1.6

eXercise

You must be able to

- name the navigational and shipbuilding advances that mattered
- explain what each made possible
- distinguish a motive for exploration from an enabler
- state the role of state sponsorship

Method — The advances

Improved hull and rig designs allowing sailing against the wind; the compass and astrolabe for position; better charts; and shipboard artillery.

Method — What each enabled

Rig design made ocean routes navigable in both directions. Instruments made position estimable out of sight of land. Artillery made a ship able to enforce a claim on arrival.

Method — Motive against enabler

A desire for direct access to Asian goods is a **motive**; a ship able to reach Asia is an **enabler**. Confusing them is the commonest error in this subtopic.

Method — State sponsorship

Voyages were expensive and risky. Crowns and chartered companies supplied capital and legal authority, which is why exploration followed political rivalry as much as commercial opportunity.

Practice 2.1 ■ 3 marks

Name three technological advances relevant to exploration.

Solution 2.1

Worked steps

any three of: improved hull and rig design; the compass; the astrolabe; better charts; shipboard artillery **B3**.

Practice 2.2 ■ 2 marks

State the difference between a motive and an enabler.

Solution 2.2

Method: Motive against enabler

Worked steps

a motive is why a voyage was wanted **B1**; an enabler is what made it possible **B1**.

Practice 2.3 ■ 1 mark

A voyage is financed by a crown.

- (a) State one reason state sponsorship was necessary.
- (b) State one consequence for what the voyage sought.

Solution 2.3

Worked steps

(a) voyages were expensive and risky beyond private means, and needed legal authority **B1**. (b) the voyage served the sponsor's political as well as commercial aims **B1**.

Exam-style 3.1 ■ 1 mark

The ability to sail against the wind mattered because it made

- A** ships faster in port
- B** ocean routes navigable in both directions
- C** artillery unnecessary
- D** charts obsolete

Solution 3.1

Method: The advances

- A ships faster in port
- B ocean routes navigable in both directions 
- C artillery unnecessary
- D charts obsolete

Worked steps

- B. return voyages become possible.

Exam-style 3.2 ■ 1 mark

“A demand for pepper and silk” is

- A** an enabler
- B** a motive
- C** a technology
- D** a state policy

Solution 3.2

A an enabler

B a motive 

C a technology

D a state policy

Worked steps

B. demand explains why, not how.

Exam-style 3.3 ■ 1 mark

Shipboard artillery is listed among the technologies of exploration.

- (a) State what it enabled.
- (b) Explain why it belongs with navigation rather than apart from it.

Solution 3.3

Worked steps

(a) enforcing a claim or a trading position on arrival **B1**. (b) reaching a place and holding a position there were parts of one venture **B1**, so the technology of arrival and the technology of enforcement served the same purpose **B1**.