

Past-paper walk-through

Opportunity Cost and the Production Possibilities Curve (PPC) ■ 1.2

eXercise

Questions in this set

- 2023 Set 1 Q3
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- 2018 Q3
- 2017 Q3
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- 2015 Q2

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 3

2023 Set 1 ■ Q3

Assume that in the country of Zeta, the civilian noninstitutional population aged 16 and over is 1,000,000. The labor force participation rate is 70%, the unemployment rate is 9%, and the natural rate of unemployment is 5%.

- (a)** Calculate the number of people in Zeta that are unemployed. Show your work.
- (b)** Is the economy of Zeta currently experiencing a recessionary gap, an inflationary gap, or no output gap? Explain.
- (c)** Consumer goods and capital goods are produced in the country of Zeta. Draw a correctly labeled graph of the production possibilities curve for Zeta. Indicate a point, labeled A, that represents the current state of Zeta's economy.
- (d)(i)** If some individuals who are counted as unemployed in Zeta stop looking for work, what will happen to each of the following?
The labor force participation rate. Explain.

Question 3

(d)(ii) The unemployment rate

Solution 3

(a)

Mark scheme

- $\text{Unemployed} = \text{Unemployment Rate} \times \text{Labor Force Participation Rate} \times$
 $\text{Adult Population} = 9\% \times 70\% \times 1,000,000 = 63,000 \text{ people.}$

Solution 3

(b)

Mark scheme

- Zeta is currently experiencing a RECESSIONARY GAP. Explanation: the current unemployment rate (9%) is higher than the natural rate of unemployment (5%), meaning actual output is below full-employment (potential) output.

Solution 3

(c)

Mark scheme

- Draw a standard bowed-out (concave to the origin) production possibilities curve (PPC), with Capital Goods on the vertical axis and Consumer Goods on the horizontal axis. Plot point A **INSIDE** the curve (below/to the left of the PPC, not on it), representing that Zeta is producing below its full-employment/potential output — consistent with the recessionary gap and 9% unemployment rate found in parts (a)-(b).

Solution 3

(d)(i)

Mark scheme

- The labor force participation rate will **DECREASE**. Explanation: only employed people plus people actively seeking work count as being "in the labor force," so workers who stop looking for work are no longer counted as unemployed and drop out of the labor force. Since the working-age population is unchanged but the labor force shrinks, the labor force participation rate (labor force / working-age population) decreases.

Solution 3

(d)(ii)

Mark scheme

- The unemployment rate will DECREASE. Explanation: the unemployment rate is the number of unemployed divided by the labor force; when discouraged workers stop looking for work, they are removed from both the count of unemployed and the labor force, and this reclassification lowers the reported unemployment rate even though these people still are not working.

Question 2

2022 Set 2 ■ Q2

The table below shows macroeconomic data for Country A.

Year	Nominal GDP	GDP Deflator	Population
2020	40,000	100	100
2021	88,000	200	110

Question 2

(a)(i) Calculate each of the following for Country A in year 2021. Show your work.

Real GDP

(a)(ii) Calculate each of the following for Country A in year 2021. Show your work.

Real GDP per capita

(b) Based solely on the data provided, has the standard of living for the average person in Country A increased, decreased, or stayed the same between 2020 and 2021? Explain.

(c) How would an increase in government spending on education affect economic growth in Country A? Explain.

(d) Assume that Country A produces consumer goods and capital goods. Draw a correctly labeled production possibilities curve for Country A, and show the effect of the increase in government spending on education on your graph.

Solution 2

(a)(i)

Mark scheme

- Real GDP in 2021 = 44,000. Work: $\text{Real GDP} = (\text{Nominal GDP} \div \text{Price Index}) \times 100 = (88,000 \div 200) \times 100 = 44,000$. 1 point for the correct value (44,000) with work shown. (In the official scoring guidelines this single point is shared with part (a)(ii): both the real GDP and real GDP per capita values are required together for the point.)

Solution 2

(a)(ii)

Mark scheme

- Real GDP per capita in 2021 = 400. Work: Real GDP per Capita = Real GDP $\div$ Population = 44,000 $\div$ 110 = 400. 1 point for the correct value (400) with work shown. (Shares its official 1 point with part (a)(i); each value is graded here for its own point.)

Solution 2

(b)

Mark scheme

- The standard of living for the average person in Country A has STAYED THE SAME between 2020 and 2021. Explanation: real GDP per capita in Country A did not change from 2020 to 2021 (it remains 400, per the data provided and the value computed in part (a)(ii)) — and real GDP per capita, not nominal GDP or population alone, is the best measure available here of the average person's standard of living. 1 point for stating 'stayed the same' AND explaining via unchanged real GDP per capita.

Solution 2

(c)

Mark scheme

- An increase in government spending on education WILL PROMOTE (increase) economic growth in Country A. Explanation: spending on education increases human capital — the skills, knowledge, and training embodied in workers — which makes the labor force more productive; higher labor productivity increases the economy's potential (long-run) output, i.e., economic growth. 1 point for stating that growth increases AND explaining via human capital and labor productivity.

Solution 2

(d)

Mark scheme

- Draw a correctly labeled production possibilities curve (PPC) graph: axes Capital Goods (vertical) and Consumer Goods (horizontal), with a bowed-out (concave-to-the-origin) curve PPC_1 — 1 point. Second point: show an outward (rightward) shift of the entire curve, from PPC_1 to a new curve PPC_2 lying further from the origin at every point (an arrow from PPC_1 to PPC_2), reflecting the economic growth from the increase in human capital/labor productivity identified in part (c) — 1 point. Total 2 points.

Question 3

2019 Set 2 ■ Q3

Sweden and Norway use equal quantities of resources to produce food and capital goods. The table below shows the maximum possible production of food OR capital goods for each country.

Country	Food	Capital Goods
Sweden	50	100
Norway	30	120

Question 3

(a) Draw a correctly labeled graph of the production possibilities curve for Sweden. Place food on the horizontal axis and capital goods on the vertical axis. Plot the relevant numerical values on the graph.

Question 3

Country	Food	Capital Goods
Sweden	50	100
Norway	30	120