Name (Print):

This exam contains 14 multiple choice questions, 1 longer answer question, and 2 long answer questions. You must complete all multiple choice and longer answer questions; however, you only need to complete 1 of the long answer questions. Check to see if any pages are missing.

You may not use your books or notes on this exam. Calculators are permitted.

You are required to show your work on each problem on this exam. The following rules apply:

- **Organize your work**, in a reasonably neat and coherent way, in the space provided. Work scattered all over the page without a clear ordering will receive very little credit.
- Show your work. A correct answer, unsupported by calculations, explanation, or algebraic work will receive no credit; an incorrect answer supported by substantially correct calculations and explanations might still receive partial credit.
- If you need more space, use the back of the pages; clearly indicate when you have done this.

Multiple Choice: Circle the correct answer.

- 1. (3 points) Major components of the Washington Consensus are
 - A. macroeconomic stability and economic openness.
 - B. the promotion of peace and justice.
 - C. exploiting the agricultural sector to fund urban industrial development.
 - D. combating international piracy and terrorism.
- 2. (3 points) GNP or GDP divided by total population provides a measure of:
 - A. the wellness index.
 - B. the gap between the rich and poor.
 - C. per capita income.
 - D. the poverty index.

- 3. (3 points) Unlike isoquants for a fixed-coefficient production function, the isoquants for a neoclassical production function:
 - A. take labor as well as capital into account.
 - B. are L-shaped.
 - C. are capital-intensive rather than labor-intensive.
 - D. are curved.
- 4. (3 points) Because of population growth, Ghana's GNP must grow by 1.5 percent per year just to avoid a decline in average standards of living. With an ICOR of 6.0, achieving this minimum-growth target requires a saving rate of at least:
 - A. 18%
 - B. 3%
 - C. 50%
 - D. 9%
- 5. (3 points) The capital-output ratio provides an indication of the:
 - A. limits of growth.
 - B. capital intensity of the production process.
 - C. a countrys production function.
 - D. the health and educational level of the population.
- 6. (3 points) Being landlocked means that:
 - A. growth is impossible.
 - B. there will be great challenges in the development of external trade.
 - C. foreign aid is needed.
 - D. new advances in technology are not beneficial.
- 7. (3 points) Which of the following statements is true about globalization?
 - A. It is a term used by different people to mean different things.
 - B. It covers more than just economics.
 - C. It is not a new phenomenon.
 - D. All of the above
- 8. (3 points) Diminishing returns to capital means that as you add more capital:
 - A. output falls.
 - B. the additional contribution to output eventually declines.
 - C. labor usage falls.
 - D. output rises.

9. (3 points) True or false: Net enrollment rates for school can be greater than 100%.

- A. True
- B. False
- 10. (3 points) Assume that the headcount index decreases by a small amount. Also, the mean consumption decreases by a small amount. Which of the following is true:
 - A. the poverty gap increases.
 - B. the poverty gap decreases.
 - C. the poverty gap may increase or decrease.
 - D. the poverty gap stays the same.
- 11. (3 points) East Asia's "four tigers" all achieved rapid industrial growth by:
 - A. eliminating virtually all government interventions.
 - B. heavily subsidizing exports, while prohibiting competing imports.
 - C. imposing effective central planning.
 - D. fostering a development strategy based on exports of manufactures.
- 12. (3 points) China and Vietnam are examples of formerly planned economies that
 - A. adopted the shock-therapy approach to liberalization.
 - B. began their reform programs by privatizing large state-owned industrial enterprises.
 - C. suffered severe economic contraction during the transition to a market system.
 - D. managed the transition to a market economy in gradual steps.
- 13. (3 points) Most frequency distributions of income have the following shape:
 - A. rectangular.
 - B. normal.
 - C. lognormal.
 - D. none of the above.
- 14. (3 points) In low-income countries, the social rate of return generally is highest for investment in:
 - A. university education.
 - B. primary education.
 - C. vocational education.
 - D. adult education.

Longer Answer Question: Please answer the following. Be sure to label any graphs.

1. (28 points) There are three countries in the world: US, Oz, and Adz. Each country sells three products: apples, oranges, and peppers. The prices and quantities sold in county can be seen in the graph below. Prices are in the national currency of each nation. For the US, the currency is dollars. For Oz, the currency is gold. For Adz, the currency is Euros.

Country	P_a	Q_a	P_o	Q_o	P_p	Q_p
US	Х	20	3	500	2	40
Oz	2	Y	2	100	4	10
Adz	3	50	1	30	2	50

(a) (8 points) The GDP for Oz is equal to 1,000 gold. How many apples are sold and produced in Oz?

(b) (10 points) Exchange rates are defined such that one dollar is equal to either 2 units of gold or 10 Euros. Using exchange rates, which country has the largest GDP: Oz or Adz?

(c) (10 points) Assume that international prices are just a simple average of all prices for that good. International prices are reported in dollars. The PPP adjusted GDP for the US is 2,000 dollars. Find the domestic price of apples in the US.

Long Answer Questions: Please answer the following. Show all work. Draw graphs where needed. Only answer 1 of the 2 questions.

- 1. (30 points) Zackland, a developing country, can be described using the Solow (Neoclassical) Growth Model. Let the countries production function be equal defined as $y = 10 * k^{\frac{2}{3}}$.
 - (a) (10 points) Assume that K = 300 and L = 900. Also, population is growing at a rate of 0.3 per year while d = 0.4 and s = 0.8. What is the change in k?

(b) (10 points) Assume that the economy is stable after a few years. That is, there is no change in the capital labor ratio. With k on the x-axis and y on the right axis, sketch the equilibrium of this economy. Label the specific values at equilibrium.

(c) (10 points) Show the effect on equilibrium of a change in technology in your graph from part b. Specifically, $y = 20 * k^{\frac{2}{3}}$ now. There is no need to label points with specific values.

- 2. (30 points) The country of Grenyarnia has an issue with school attendance. For the average person in Grenyarnia, one year of schooling brings no costs, other than the giving up a wage of \$50 that year. The next year, that person can earn \$20. A year after that, the person will earn \$60. For that person, the government spends \$60 on textbooks, teachers, and other resources. When that person is done with their education, he also generates a positive externality. In the first year, this externality is approximately \$20. In the second year, the externality is equal to \$40.
 - (a) (10 points) Find the private rate of return to schooling.

(b) (10 points) Find the social rate of return to schooling.

(c) (10 points) How can the government of Grenyarnia increase enrollment rates?

Extra Credit: Write a joke.