# Anything Worth Doing Is Not Necessarily Worth Doing Well Answer Key 

Student Alert: Should you do all you can to earn a perfect grade of 100 on your next economics exam?

> Always take the short cut; and that is the rational one. Therefore say and do everything according to soundest reason.

Meditations iv. 51
Marcus Aurelius
A.D. 120 to 181

Whatever is worth doing at all is worth doing well.

Philip Dormer Stanhope Earl of Chesterfield 1694 to 1773

Between these two extremes, one discovers the economic way of thinking. We know that productive resources are limited, so we cannot have everything we want. We must economize by choosing among alternatives.

We may want the very best product available, but we settle on a product with fewer features or less durability because the extra benefit of the product we would most like to have is simply not worth the extra cost. Resources that aren't devoted to making a good product perfect can be allocated to making other products.

Few choices we make in life are all-or-nothing decisions. We decide on the number of assigned chapters to read today based on alternative uses of our time. We frequently adjust the number of hours we study for each subject because of tests and non-school uses of our day. Epidemic doses of "senioritis" -severely curtailing work for grades after college-acceptance letters are received-may suggest that the majority of students agree with Marcus Aurelius rather than the Earl of Chesterfield. Even the most severe victims of senioritis may admit that they are incurring a very different cost: the lost opportunities to learn the cultural and scientific knowledge that will be required in college.

An excellent academic record in high school expands the array of college choices for the graduating high school senior. " $A$ " grades are preferred to " $C$ " grades for reasons that don't warrant an explanation: the extra benefits of the explanation are not worth the extra costs of reading it. This comparison of additional, or marginal, benefits and costs applies to production decisions, too. Of course, auto companies can make cars that work for a quarter century, but
would the extra manufacturing cost be worthwhile over the product lifetime? Technical advances frequently lead to superior products at lower cost. Because of blindingly rapid changes in computer technology, the concept of an "old" computer is measured in months; so building a computer case that lasts for 50 years would be wasteful. Can you suggest services or products that are satisfactory, but not superior?

Thinking about the future requires that we acknowledge what we have and then make incremental changes so the marginal benefits of the changes exceed the marginal costs. Mechanical equipment in an aircraft must meet higher quality standards than the same product in a car. If the alternator fails in a car, one typically has enough time to pull off the road before the car stops. In an airplane, safe landing options are fewer than those available to the motorist. Both quality decisions are correct because the added benefits from avoiding failure in a plane greatly exceed the marginal benefits from avoiding mechanical failure in a car.

1. After reading in Bartlett's Familiar Quotations that "knowledge is power," a student decides to be as knowledgeable as possible by devoting the next 20 years, without interruption, to college. From the hypothetical data below, would you advise this person to reconsider a career as a professional student? Answer the questions that follow.

Table 1-11.1
Degree Earned and Expected Lifetime Earnings and Costs

| Highest <br> degree <br> earned | Expected lifetime <br> earnings (total <br> benefit) by degree | Marginal <br> benefit of <br> additional <br> degree | Expected lifetime <br> costs (total cost) <br> by degree | Marginal cost of <br> additional degree |
| :--- | :---: | :---: | :---: | :---: |
| High school | $\$ 600,000$ | $+\$ 600,000$ | $\$ 0$ | $+\$ 0$ |
| Associate | $\$ 1,200,000$ | $+\$ 600,000$ | $\$ 200,000$ | $+\$ 200,000$ |
| Bachelor's | $\$ 1,700,000$ | $+\$ 500,000$ | $\$ 500,000$ | $+\$ 300,000$ |
| Master's | $\$ 2,100,000$ | $+\$ 400,000$ | $\$ 900,000$ | $+\$ 400,000$ |
| Doctorate | $\$ 2,400,000$ | $+\$ 300,000$ | $\$ 2,400,000$ | $+\$ 1,500,000$ |

(A) Complete Table 1-11.1 with the missing values of the marginal benefit and marginal cost of earning an additional degree.
(B) Would a master's degree and a doctorate degree increase the human capital of the student? (Yes /No)
(C) In the process of building knowledge, would the doctorate degree be the best example of doing a job well? (Yes / No)
(D) Assuming that inflation and interest rates have been taken into account in these data, what is the optimal degree for this person to earn?

Comparing the values of marginal benefit and marginal cost, the optimal degree for the person is the Master's degree. For this degree the marginal benefit equals the marginal cost. The marginal benefit of earning the doctorate degree is less than the marginal cost.
(E) Which criterion did you use to determine the optimal degree this person should obtain? (Total Benefit $=$ Total Cost $/$ Marginal Benefit = Marginal Cost)
(F) Since inflation is already factored into the data, what is the most likely reason that the costs of a doctorate degree rise to such a high level?

A person seeking a doctorate degree already has acquired enough education to have high income earning skills. The opportunity cost of the additional time needed to earn the doctorate degree is the sacrifice of high earnings during this time.
2. Wrapping garbage neatly before taking it to the trash can, raking leaves on a windy day, hand drying dishes after they have been run through a dishwasher's dry cycle, and similar tasks seem to push the credibility of any value in doing a job well. Give examples of jobs with highly diminishing marginal benefits.

Answers will vary. Ironing blue jeans and cleaning up every speck of dust are examples of such jobs.
3. Consider an electronic item that you have thought about buying. Do you always choose the highest-priced good? Explain your answer.

People frequently don't purchase the highest-priced goods because the marginal benefit of the highest quality is not worth the additional cost.
4. If you wanted to eliminate "senioritis," how would you change the college acceptance process and/or the incentives offered by high school instructors?

You could make college acceptance conditional on work during the entire senior year. This would raise the cost of senioritis and provide an incentive for seniors to study harder.

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