MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Human capital investment consists of
   A) any activity that enhances the quality of labor.
   B) expenditures for formal schooling only.
   C) expenditures for on-the-job training only.
   D) any activity that leads to the substitution of physical capital for labor.

2) "Expenditures on education and training can be treated as investment in human capital." This statement is
   A) true—current expenses are incurred with the expectation they will be more than compensated for by greater future returns.
   B) true—education must be financed by borrowing money.
   C) false—the market for college loans is too imperfect to be consistent with investment models.
   D) false—education is purchased for its current (consumption) value, not its future (investment) value.

3) Approximately what percentage of the U.S. population had completed four or more years of college by the year 2014?
   A) 8%
   B) 14%
   C) 29%
   D) 37%

4) Age-earnings data show that
   A) differences in earnings by education level disappear for workers age 55 and over.
   B) men's earnings increase with educational level but women's earnings do not.
   C) earnings rise with factors such as family background and personal drive, but not education level.
   D) higher educational levels are consistently associated with higher earnings.

5) Available evidence indicates that
   A) age-earnings profiles vary with education, but not with age.
   B) age-earnings profiles vary with age, but not with education.
   C) age-earnings profiles of workers with more education tend to be flatter, but higher, than those with less education.
   D) differences in earnings between workers who have more education and those who have less education generally widen with age.

6) The total economic cost of formal education typically does not include
   A) expenditures for tuition, books, and fees.
   B) earnings forgone by choosing not to enter the labor force.
   C) expenditures for room and board.
   D) transportation expenses to and from college.
7) The primary indirect cost of going to college is
   A) earnings given up by not entering the labor market directly after high school.
   B) an enhanced future flow of earnings.
   C) the value of room and board that would have been provided at home.
   D) tuition expenses.

8) Refer to the following diagram.

According to human capital theory, areas 1, 2, and 3 represent, respectively,
   A) indirect costs, direct costs, and incremental earnings.
   B) direct costs, indirect costs, and incremental earnings.
   C) indirect costs, direct costs, and total earnings.
   D) direct costs, indirect costs, and total earnings.
9) Refer to the following diagram.

In deciding whether or not to go to college, one would compare the discounted value of
A) area 3 to the discounted value of area 1.
B) area 3 to the discounted value of area 2.
C) area 3 to the discounted value of areas 1 and 2.
D) areas 2 and 3 to the discounted value of area 1.

10) Refer to the following diagram.

Which one of the following would increase the likelihood of investing in a college educat
A) an increase in area 1
B) a reduction in area 2
C) a reduction in the retirement age
D) a reduction in area 3 and an equal increase in area 2
11) Refer to the following diagram.

Suppose there is now a 25% likelihood that a person's work career may be interrupted for years after schooling has been completed. In the diagram above, this development would
A) have no impact.
B) shrink area 1 and reduce the likelihood of investing in a college education.
C) shrink area 2 and increase the likelihood of investing in a college education.
D) shrink area 3 and reduce the likelihood of investing in a college education.

12) Consider an individual who will invest a total of $10,000 in direct and indirect costs for training in order to increase earnings by $12,500 for the next year. Suppose the interest rate is 8%. If this person plans to retire the following year, the net present value of this investment is closest to
A) zero.  
B) $1,600.  
C) $2,500.  
D) $11,600.

13) An earnings-maximizing student would attend college if
A) the net present value of a college education is zero.
B) the internal rate of return on a college education is positive.
C) the internal rate of return on a college education exceeds the interest rate on borrowed funds.
D) there is an earnings gain associated with a college education.

14) Which one of the following would indicate a profitable human capital investment?
A) The net present value is −$12,000.
B) The interest rate on borrowed funds is 4% and the rate of return is 3%.
C) The interest rate exceeds the net present value.
D) The rate of return exceeds the interest rate on borrowed funds.
15) At the optimal amount of education, the internal rate of return on education is
   A) maximized.
   B) higher than the market rate of interest.
   C) lower than the market rate of interest.
   D) equal to the market rate of interest.

16) Which one of the following circumstances would most likely lead to increased
   investment in education by women?
   A) an increase in the likelihood of interrupted labor market careers
   B) improved employment opportunities for women
   C) higher discount rates for women than men
   D) persistent discrimination against women

17) All else equal, investment in education will be greater,
   A) the higher the interest rate.
   B) the greater the direct cost of education.
   C) the lower the expected retirement age.
   D) the greater the earnings differential between more- and less-educated workers.

18) Other things equal, the lower the cost of a human capital investment,
   A) the larger the net present value of the investment.
   B) the lower the rate of return on the investment.
   C) the fewer the number of people who will find the investment profitable.
   D) the lower the interest rate on funds borrowed to finance the investment.

19) Human capital theory predicts that the proportion of people attending college will
   decrease if
   A) the age at which retirement benefits are received is lowered to 59.
   B) the age at which retirement benefits are received is raised to 75.
   C) there is a relatively large population of new high school graduates.
   D) there is an increase in the demand for college-educated workers.

20) Most rate-of-return studies of education indicate that
   A) social rates of return generally exceed private rates of return.
   B) private rates of return are about 2.5% to 7%.
   C) private rates of return are about 10% to 15%.
   D) private rates of return have held steady over the 1956-2014 period.

21) From 1980 to the present, the college wage premium
   A) rose for women but fell for men.       B) rose for men but fell for women.
   C) fell for both women and men.          D) rose for both women and men.
22) The college wage premium
   A) rose during the 1980s, but fell in the 1960s and again from 1990 to the present.
   B) fell during the 1970s but has risen consistently since then.
   C) rose during the 1970s and 1980s, but has fallen consistently since then.
   D) has risen consistently since 1960.

23) The increase in the college wage premium during the 1980s was most likely caused by
   A) increased demand for college graduates due to changes in the structure of the economy.
   B) increased supply of college graduates from the large "baby boom" generation.
   C) changes in technology that reduced the relative supply of college-trained workers.
   D) increased demand for high school graduates, particularly males.

24) The declining college wage premium in the 1970s is generally attributed to the
   A) growing demand for college graduates in that period.
   B) shrinking supply of college graduates in that period.
   C) growing supply of college graduates in that period.
   D) shift of employment from manufacturing to services.

25) Studies of the rate of return on human capital must be interpreted with care because
   A) the social return may not equal the private return.
   B) past differences in earnings are no guarantee of future differences in earnings.
   C) a high average rate of return is no guarantee of a high personal rate of return.
   D) All of the other choices are correct.

26) The private rate of return on human capital may ________ the social rate because
   A) understate; schooling is subsidized
   B) understate; schooling provides external benefits
   C) overstate; schooling provides external benefits
   D) overstate; schooling and ability are positively correlated

27) All else equal, the social rate of return to education will be lower than the private return if
   A) there are external benefits to education.
   B) the social return correctly calculates benefits using after-tax values.
   C) the social return correctly calculates costs by including education subsidies.
   D) more educated workers have lower crime rates and unemployment rates.

28) In calculating the social rate of return on a human capital investment, one would
   A) deduct taxes from incremental earnings.
   B) treat public subsidies to education as a part of the costs.
   C) exclude any external benefits associated with the investment.
   D) treat public subsidies to training as part of the benefits.
29) Based on standardized test scores for students in the following countries, which has the highest measured schooling quality?
A) France  B) India  C) U.S.  D) Japan

30) The demand for human capital curves slope downward and to the right because
A) education is a screening device.
B) as the interest rate rises, the net present value of education rises.
C) the benefits of increased education diminish as schooling continues.
D) investment in education is subject to increasing marginal returns.

31) Typically, as the level of education increases,
A) costs rise and benefits fall, reducing the internal rate of return to education.
B) costs rise and benefits fall, increasing the internal rate of return.
C) costs fall and benefits rise, increasing the internal rate of return.
D) both costs and benefits fall, having an unpredictable effect on the rate of return.

32) Refer to the following diagram.

If \( D_1 \) is this individual's investment demand curve, then the optimal amount of education
A) is \( E_1 \) from society's standpoint.
B) is \( E_2 \) from society's standpoint.
C) is \( E_1 \) from this individual's standpoint.
D) cannot be determined without further information.
33) Refer to the following diagram.

Which one of the following might cause a person's human capital investment demand curve to shift from $D_1$ to $D_2$?

A) The person discounts future earnings at a higher rate than before.
B) The indirect costs of education increase.
C) The college wage premium falls.
D) The college wage premium increases.

34) Refer to the following diagram.

Compared to $D_1$, a person whose demand curve is given by $D_2$ will likely obtain

A) more education and receive higher earnings.
B) more education and receive lower earnings.
C) less education and receive higher earnings.
D) less education and receive lower earnings.
Refer to the following diagram.

Which one of the following will shift the supply of investment funds curve downward?
A) A reduction in the availability of student loans.
B) Greater ability to transform schooling into earnings.
C) An increase in expected work life.
D) An increase in grants and scholarships.

Personal differences in demand for human capital curves can be explained by differences in all of the following, except
A) ability.
B) access to investment funds.
C) discrimination.
D) discount rates.

Private loans to finance investments in human capital
A) are difficult to obtain because the financial return to education has been decreasing.
B) are difficult to obtain because a person cannot readily pledge collateral on human capital.
C) are granted by banks just as they are to finance investment in machinery or houses, without regard to collateral.
D) are rarely subsidized by government because they are granted readily by private banks.

Which one of the following observations would tend to widen the dispersion of earnings?
A) Banks charge higher interest rates on educational loans to those individuals most likely to face discrimination on the job.
B) Those with higher ability face higher costs of investment funds.
C) Human capital investment demand and supply curves are negatively correlated.
D) Poor families pay a larger proportion of family income on education than rich families.
39) Which one of the following most closely approximates pure specific training?
   A) learning tax accounting
   B) learning a management information system that is unique to your firm
   C) majoring in management information systems at a major university
   D) learning a widely used spreadsheet program that is used at your firm

40) General training
   A) will be paid for by the employee in the form of a reduced wage.
   B) raises the trainee's value only to the firm that is providing the training.
   C) helps to make labor a quasi-fixed resource.
   D) reduces the worker's value to the firm, because the worker's wage rate would have to rise.

41) Specific training
   A) will be paid for by the employee in the form of a reduced wage.
   B) occurs once a student majors in a specific subject area.
   C) helps to make labor a quasi-fixed resource.
   D) reduces the worker's value to the firm, because the worker's wage rate would have to rise.

42) A worker who has obtained specific training is more likely to establish a long-term association with an employer because
   A) the worker has made an investment he does not wish to lose.
   B) the employer has made an investment she does not wish to lose.
   C) both the worker and the employer have made investments they do not wish to lose.
   D) None of the other answers is correct.

43) Charley's employer is considering him for a general training program that will cost $3 per hour. His current marginal revenue product is $15 per hour and will rise to $20 upon completion of the program. Of the following, Charley's training and posttraining wage, respectively, will most likely be

44) Mary's employer is considering her for a firm-specific training program that will cost $3 per hour. Her current marginal revenue product is $15 per hour and will rise to $20 upon completion of the program. Of the following, Mary's training and posttraining wage, respectively, will most likely be
Refer to the following diagram, in which MRP_u refers to the marginal revenue product of an untrained worker, while MRP_t refers to this worker's marginal revenue product as a result of a program of on-the-job training.

In the case of general training, the wage rate during the training period will be ________, while the posttraining wage will be ________.

A) W_1; W_3  
B) W_1; between W_2 and W_3  
C) W_2; between W_2 and W_3  
D) W_2; W_2
46) Refer to the following diagram, in which MRP_u refers to the marginal revenue product of an untrained worker, while MRP_t refers to this worker's marginal revenue product as a result of a program of on-the-job training.

\[ W_3 \quad \text{MRP}_t \]
\[ W_2 \quad \text{MRP}_u \]
\[ W_1 \]

Training period  Posttraining period  Time

In the case of specific training, the wage rate during the training period will be ________, while the posttraining wage will be ________.

A) \( W_1; W_3 \)  
B) \( W_1; \) between \( W_2 \) and \( W_3 \)  
C) \( W_2; \) between \( W_2 \) and \( W_3 \)  
D) \( W_2; W_2 \)

47) A firm that provides specific training to its workers

A) must reduce the wage during the training period, effectively forcing the worker to pay for the training.
B) may be prevented by the minimum wage from paying a wage above marginal revenue product during the posttraining period.
C) will likely provide more training to those who have less formal education.
D) has a stronger incentive to reduce employee turnover than firms that provide only general training.

48) Which of the following statements about on-the-job training is most supported by empirical evidence?

A) A greater percentage of men than women receive on-the-job training.
B) Job training is more common at smaller firms than larger ones.
C) Workers with more formal education also tend to receive more on-the-job training.
D) Training does not lead to higher job performance ratings.
49) Empirical evidence suggests that
A) gender differences in earnings explain most of the gender wage gap.
B) most training is specific rather than general.
C) training appears to have little impact on wages.
D) training lengthens employment durations.

50) If education is undertaken as consumption as well as investment,
A) researchers will understate the private rate of return on human capital investment.
B) researchers will overstate the social rate of return on human capital investment.
C) the investment costs of education will be understated.
D) the benefits of education will be overstated.

51) If part of the typical college graduate's additional earnings is attributable to ability and not to education,
A) the screening hypothesis must be false.
B) estimated rates of return will overstate the actual rate of return.
C) there will be less dispersion in the distribution of earnings than otherwise.
D) the social rate of return will understate the private rate.

52) If the screening hypothesis is true,
A) educational attainment and the level of fringe benefits received will be inversely related.
B) the private rate of return to education will tend to overstate the social rate of return.
C) the private rate of return to education will not accurately reflect the gain to the individual student.
D) the college wage premium is much greater than is hypothesized by human capital theorists.

53) Evidence suggests that, during recessions, the college enrollment rate
A) rises, because the benefit of attending college rises.
B) rises, because the effect of reduced ability to pay is swamped by the effect of lower opportunity costs.
C) rises, because the effect of reduced ability to pay is swamped by the effect of increased state funding to counter the recession.
D) falls, because the effect of lower opportunity cost is swamped by the effect of reduced ability to pay.

54) Research by Dale and Krueger shows that, all else equal,
A) starting salaries of college graduates are not generally affected by choice of major.
B) starting salaries of college graduates are positively related to the selectivity of the college attended but inversely related to the selectivity of other schools to which the student applied.
C) it does not generally pay to attend a school with higher tuition.
D) it does not generally pay to attend a more selective college.
55) Which of the following is a true statement?

A) In 2013, 34% more females than males graduated from college.
B) Research by Goldin, Katz, and Kuziemko attributes most of the increase in female college attendance rates to lower birthrates among teenagers.
C) Women achieved college attendance parity with males by the early 1960s.
D) Since 1970, high school girls have reduced the amount of math and science classes taken to concentrate instead on the humanities classes they will likely take in college.