

EDT Mini-Test

Aids allowed: pens, pencils, erasers, ruler and a basic calculator if necessary.

The following test contains sample questions of the Executive MBA Diagnostic Tool, EDT. Try the mini-test for a quick assessment of your quantitative skill level.

Get ready:

- Find a quiet spot
- Set a timer for 30 minutes
- Try to solve as many questions as you can, **writing down your path to the solution**
- Check your answers against the solution file

Section 1. Arithmetic and Algebra

1. Express the following as a fraction: $\frac{1}{2} + \frac{2}{3} - \frac{3}{5} + \frac{5}{6}$
2. Evaluate: $\log_3 27 - \log_3 9$
3. Solve: $|5| - |-23|$
4. Find the equation of the line that passes through (1, -6), and is parallel to the line $x + 2y = 6$. What is the slope of the new line, and if $x = 2$ what is y ?
5. The expression $f(x) = 2x^2 + x + 1$ is
 - a. Always negative
 - b. Always zero
 - c. Always positive
 - d. Sometimes positive, sometimes negative, depending on the value of x
6. The formula $A(t) = A_0 e^{rt}$ is used to compute the future value of an investment with interest compounded continuously. $A(t)$ is the future value at time t , A_0 is the initial investment, r is the annual interest rate, and t is time measured in years.
 - a. Given that \$1000 is invested for three years at 6% interest, what is the value of the investment with continuous compounding of interest at maturity?
 - b. At an annual rate of 10%, how long will it take to double your investment, assuming continuously compounding of interest?

Section 2: Graphing

7. After doing some production research, you determine that to produce 10 pairs of jeans it will cost you on average, \$80/unit. You determine that as prices decreases to \$20/unit, your firm is willing to produce 100 pairs of jeans. Assume the firm's supply curve is a linear function joining these two points.
 - a. Plot these two points on the graph provided.
 - b. Join the two points with a straight line.
 - c. What is the equation of the line?
 - d. If the market is willing to pay \$50/unit, how many pairs of jeans should your firm produce?

Section 3: Logical Reasoning

8. A restaurant must choose its main dinner entrée for each night of the week, beginning on Sunday and ending on Saturday. The possible entrées are Chicken, Beef, Veal, Pork, Pasta, Fish, and a Vegetarian dish, each of which will be used on a different night. The following conditions must be met when determining the menu:

The Chicken must be served either the night before or the night after the Pasta is served.

The Beef must be served either the night before or the night after either the Pork or the Fish is served.

The Vegetarian dish cannot be served the night before or the night after the Veal is served.

The Veal must be served on Monday.

NOTE: Some of the following questions have multiple answers, you are not required to show all the possible answers, merely how you derived yours.

- a. When can the Vegetarian dish be served?
- b. What is a possible menu order from Sunday to Saturday
- c. If Chicken is served on Saturday, can Pasta be served on Thursday? Can Pork be served on Wednesday? Explain
- d. If Fish is served on Thursday, the Pork must be served on which day?