

## Practice Set 1

### Basics & Prerequisites

This set contains problems for your own practice. It is highly recommended to work on the problems on your own. Do not just read the provided solutions. Instead, try to solve the problems and use the solutions only when you cannot continue on your own. Reading problems that someone else has solved has the same value for your preparation like watching someone else running a marathon on TV and then expecting to be able to run it, too. If you have questions on this set, please ask your section's teaching assistant.

- The following table contains information for the qualifications, sex and annual wage of 4 particular employees.

	<i>Degree</i>	<i>Languages</i>	<i>Sex</i>	<i>Annual Wage</i>
<i>Kate</i>	Bachelor	English, Mandarin	F	\$90K
<i>Emma</i>	Master's	English	F	\$110K
<i>Olivia</i>	Master's	English, Mandarin	F	\$140K
<i>David</i>	Ph.D.	English	M	\$170K

- Can you tell what is the effect of obtaining a Master's on *annual wage*?
  - Can you tell what is the effect of *speaking Mandarin* on *annual wage*?
  - Can you tell what is the effect of each individual's *sex* on *annual wage*?
- Ivan owns a VW Jetta. This car can be typically leased for \$300 per month but Ivan preferred to buy his own with cash. Ivan is a trained welder by profession. Even though a welder can easily make \$5,000 per month in his area, Ivan preferred to drive for Grab full-time. Every month, his revenue from Grab is around \$6,400 while the cost of fuel and maintenance for the car is around \$600.
    - Calculate Ivan's *accounting profit* and *economic profit* and explain why they are not necessarily the same thing.
    - Explain how Ivan's accounting and economic profit will be affected if due to a steep increase in construction activity in his area, the salary for a welder increases to 6,000 dollars per month.
    - Should the increase in the salary of welders affect Ivan's employment decision?
  - Consider the equations for the lines  $y = 10 + 3x$  and  $y = 100 - 2x$ . Find  $x$  and  $y$  at the intersection of the two lines.
  - In class we discussed why all top educational institutions include Economics as a core course for all students to take independently of their major. What is the basic reason for this?