

## Econ Problem Set #1: Unemployment (Answer Key)

Goodstein claims that each \$1B of US GDP supports 22,000 jobs, on average.

1. Suppose the current size of the US economy is \$7T. How many jobs does this result in?

*154 million jobs:  $(\$7T \div \$1B) \times 22,000$*

2. Suppose there are 162.1 million workers in the US economy. (a) How many would be unemployed based on your answer to (1)?

*There would be 8.1 million unemployed workers.*

(b) If the formula for the unemployment rate is

unemployment rate = number of unemployed workers  $\div$  total number of workers, employed or unemployed

what is the unemployment rate?

*5% (rounding slightly):  $8.1 \div 162.1$*

3. Imagine that a stringent set of environmental regulations is introduced in order to prevent global warming, with the result that each \$1B in GDP now supports only 21,000 jobs. If the GDP remains at \$7T, what will the new unemployment rate be?

*approximately 9.3%: there will be 147 million jobs, 15.1 million unemployed, etc.*

4. Suppose the government, after enacting the regulations in (3) wants to restore the original unemployment rate by increasing the size of the economy. How much must GDP be to fully offset the employment reduction due to regulation?

*We want to create 154 million jobs. Using the method from (1), solve for  $(x \div \$1B) \times 21,000 = 154$  million.  $x = \$7.33T$ .*

5. Name three things the government could do bring about this increase in GDP.

*Increase government spending. Cut taxes. Use monetary policy to lower interest rates.*

6. Name three things that consumers or businesses might do that would frustrate the government in its effort to raise GDP.

*Consumers might not increase their consumption spending. Business might not increase their investment spending. Either might choose to spend on imports rather than domestic goods and services.*