

**Quiz B: 4/25/12**

Name &amp; Time \_\_\_\_\_

**Quiz:** Set up the calculations needed to determine whether Astro Mining should build the factory.

Astro Mining Inc. has an opportunity to invest \$300,000 in a factory that will generate cash flows over the next five years that have a present value equal to \$105,000 and will generate cash flows over its 15-year life that have an expected present value equal to \$290,000. If the factory's sales exceed expectations, the factory can be expanded any time over the next five years at an expected cost of \$200,000. The expansion will generate cash flows with an expected present value at the time of the expansion equal to \$205,000 and with an expected present value today of \$140,000. The standard deviation of returns on the factory over the next five years is expected to equal 41% and over its 15-year life is expected to equal 38%. This is less than the standard deviation of returns on the expansion which is expected to equal 51% over the next five years and 43% once it is built (if it is). The return on Treasuries varies with maturity as follows: 1-year = 0.173%; 2-year = 0.278%; 3-year = 0.404%; 4-year = 0.631%; 5-year = 0.852%; 10-year = 1.976%; 15-year = 2.484%.

**Note: Bonus WSJ Questions on back of page**