



## Lesson Plan: Are Colleges Still Affordable?

### Answer Key

- $$P = [(5,568 + 1,442 + 6,618 + 782 + 770) - (5,000 + 1,000 + 5,680)] * 4$$
$$P = (15,180 - 11,680) * 4 = 3,500 * 4 = \$14,000$$
$$I = P * R * T$$
$$I = 14,000(.047)(10) = \$6,580$$
$$Y_p = (14,000 + 6,580) / 10 = 20,580 / 10 = \$2,058$$
$$A = (100 * 2,058) / 28,132 = 205,800 / 28,132 = 7.3\%$$
$$A = 205,800 / 20,299 = 10.1\%$$
- Tuition = \$5,846, P = \$15,112, I = \$7,102.64, Y<sub>p</sub> = \$2,221.46  
A = 7.9%, A = 10.9%
- Tuition = \$6,125, P = \$16,228, I = \$7,627.16, Y<sub>p</sub> = \$2,385.52  
A = 8.479%, A = 11.752%
- P = \$14,000, I = \$8,400, Y<sub>p</sub> = \$2,240, A = 7.962%, A = 11.035%
- P = \$10,000, I = \$4,700, Y<sub>p</sub> = \$1,470, A = 5.225%, A = 7.242%
- P = \$17,500, I = \$8,225, Y<sub>p</sub> = \$2,572.50, A = 9.144%, A = 12.673%
- P = \$14,000, I = \$5264, Y<sub>p</sub> = \$1926.4, A = 6.847%, A = 9.490%
- Each 5% raise produced about 0.5% change in the value of A for someone earning \$28,132 and a change of about 0.8% for someone earning \$20,299.
- It allows us to experiment and see the dynamics at work.
- Assumptions: Zero inflation. The student gets a job. The starting salary is predictable. Limitations / failures: It is possible to lose a scholarship, or to secure additional scholarships. With some majors it is possible to earn more money during vacation periods. Change of vocation. (The students will find many others.)
- Apply inflation factors to costs and salaries. Account for the fact that a part of some loans will be forgiven if the teacher works in a school district with a large proportion of low-income students. Signing bonuses may be available in shortage areas.
- Affordable? Yes. A good investment? In general, students who complete college earn about \$700,000 more in their lifetime than people who only graduate from high school do. But of course there are exceptions to that, too. Also, it might depend on whether you land a job in your field, how much you earn, and so forth.