

Financial Aid - Is College Worth the Cost

1. When you graduate from high school, you can enter the workforce or go to college.

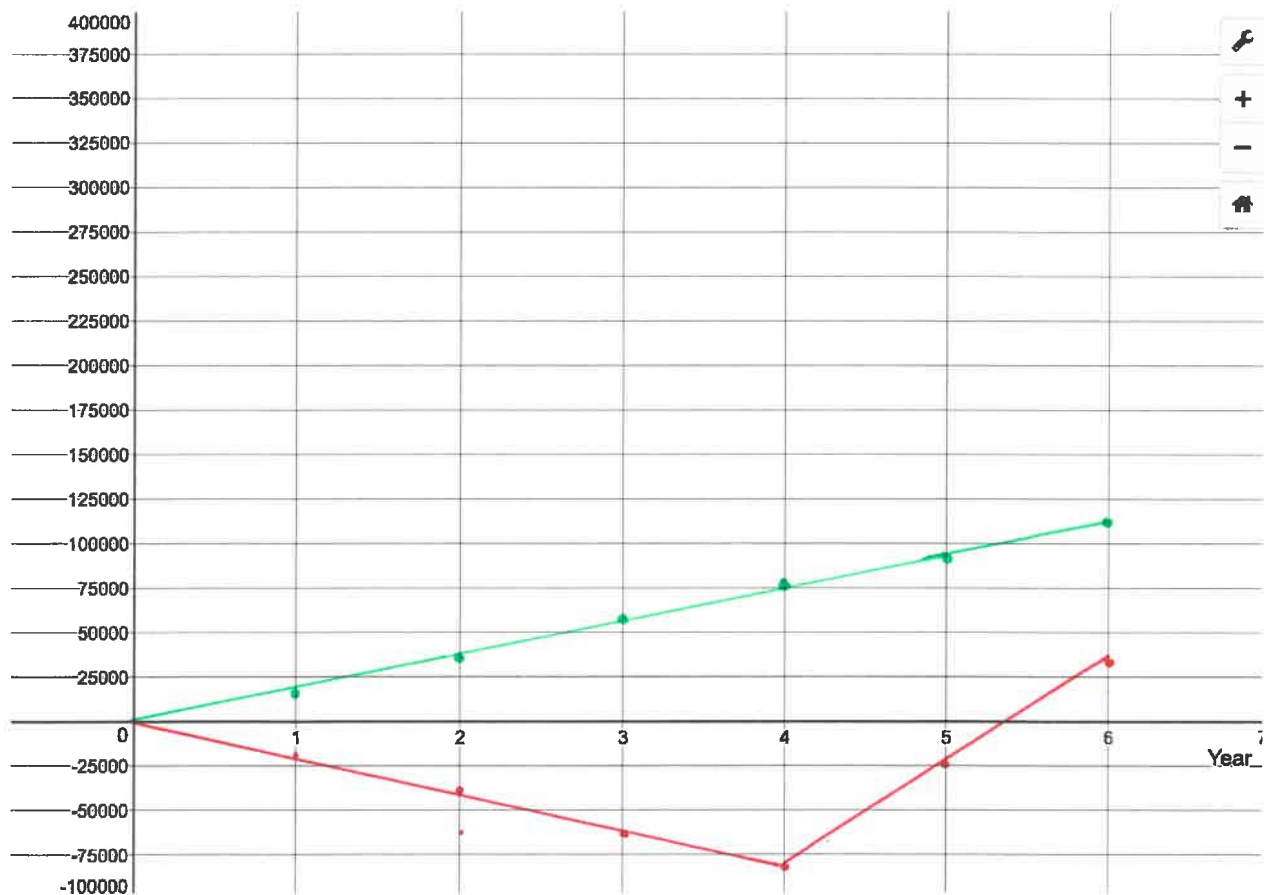
The median income for someone with a high school diploma is

\$ 19,000 a year and ~ \$56,000 a year for someone

with a bachelor's degree. A bachelor's degree typically requires four years of college, and a year of college (tuition and expenses) in Maine costs

~ \$ 20,000 on average. Calculate and graph the net income for each six years after high school.

		Net Income Since High School Graduation						
		0 years	1 year	2 years	3 years	4 years	5 years	6 years
High School Diploma	\$0	19,000	38,000	57,000	76,000	95,000	114,000	
Bachelor's Degree	\$0	-20,000	-40,000	-60,000	-80,000	-24,000	32,000	



Financial Aid - Is College Worth the Cost

2. Imagine an 18 year-old high school senior is debating whether to take a job after graduation or to go to college. How many years would it take until each option resulted in the same net income?

about 8 years if you solve graphically

- a. Write an equation for the high school diploma (x being years and y income).

$$y = 19,000x$$

- b. Write an equation for the bachelor's degree (x being years and y income).

Be careful it's a piecewise!

$$y = \begin{cases} -20,000x & 0 \leq x < 4 \\ 56,000x - 304,000 & 4 < x \leq 6 \end{cases}$$

- b. You solved this graphically how could you determine the number of years it would take to result in the same net income a different way?

elimination!

$$y = 56,000x - 304,000$$

$$- y = 19,000x$$

$$0 = 37,000x - 304,000$$

$$x \approx 8.22$$

substitution!

$$19,000x = 56,000x - 304,000$$

$$-37,000x = -304,000$$

$$x \approx 8.22$$

Financial Aid - Is College Worth the Cost

c. How old what he/she be at this point?

~ 26 years old

d. Based on this do you think it would be a smart decision for him/her to attend college? Explain.

3. The average age for retirement in Maine is 62 years old.

Compare the lifetime net income for the two options.

highschool net income:

$$y = 19,000(62)$$

$$y = \$1,178,000$$

bachelor's net income:

$$y = 56,000(62) - 304,000$$

$$= \$3,168,000$$

