

# [How to calculate present values essay sample](https://assignbuster.com/how-to-calculate-present-values-essay-sample/)

Answers to Problem Sets

1. If the discount factor is . 507, then . 507\*1. 126 = $1

2. 125/139 = . 899

3. PV = 374/(1. 09)9 = 172. 20

4. PV = 432/1. 15 + 137/(1. 152) + 797/(1. 153) = 376 + 104 + 524 = $1, 003

5. FV = 100\*1. 158 = $305. 90

6. NPV = -1, 548 + 138/. 09 = -14. 67 (cost today plus the present value of the perpetuity)

7. PV = 4/(. 14-. 04) = $40

8. a. PV = 1/. 10 = $10

b. Since the perpetuity will be worth $10 in year 7, and since that is roughly  double the present value, the approximate PV equals $5.   
PV = (1 / . 10)/(1. 10)7 = 10/2= $5 (approximately)

c. A perpetuity paying $1 starting now would be worth $10, whereas a perpetuity starting in year 8 would be worth roughly $5. The difference between these cash flows is therefore approximately $5. PV = 10 – 5= $5 (approximately)

d. PV = C/(r-g) = 10, 000/(. 10-. 05) = $200, 000.

9. a. PV = 10, 000/(1. 055) = $7, 835. 26 (assuming the cost of the car does   
not appreciate over those five years).

b. You need to set aside (12, 000 × 6-year annuity factor) = 12, 000 × 4. 623 =   
$55, 476.

c. At the end of 6 years you would have 1. 086 × (60, 476 – 55, 476) = $7, 934.

10. We did not cover continuous compounding so you do not need to worry about this question.

11. Same as 10.