

How to calculate present values essay sample



**ASSIGN
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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. $PV = 10,000 / (1.055)^5 = \$7,835.26$ (assuming the cost of the car does not appreciate over those five years).

b. You need to set aside $(12,000 \times 6\text{-year annuity factor}) = 12,000 \times 4.623 =$

$623 =$

$\$55,476.$

c. At the end of 6 years you would have $1.086 \times (60,476 - 55,476) = \$7,934.$

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

11. Same as 10.