

# *Financial Modeling*

## *– Certification Quiz Questions*

### **Module 1 – Financial Modeling Overview and Core Concepts**

1. Consider the “universal valuation” formula:  $\text{Company Value} = \text{Cash Flow} / (\text{Discount Rate} - \text{Cash Flow Growth Rate})$ , where the Cash Flow Growth Rate must be less than the Discount Rate.

Which of the following statements about this formula is NOT true?

- a. If a company’s cash flows are growing more quickly, then, according to this formula, investors are willing to pay more for the company.
  - b. This formula means that if the company’s risk and potential returns are higher, the company is also worth more to investors.
  - c. In real life, valuation is more complicated than this formula suggests because companies’ cash flows, cash flow growth rates, and discount rates change – and they may take years or decades to stabilize.
  - d. This formula means that if the expected annualized returns of other, similar companies the market decrease, and nothing else changes, then this company becomes more valuable.
2. You’re considering purchasing an apartment for \$200,000. You believe that you can earn an initial rental income of \$12,000 per year on it and that the rental income will grow at 3% per year. You also believe that you can sell the apartment for \$225,000 after 5 years. The IRR calculation is shown below:

### Apartment Purchase and Sale - IRR Estimate

"Asking Price" (Initial Investment):	\$ Thousands	\$ 200
Annual Cash Flow from Tenants' Rent:	\$ Thousands	12
Rental Income Growth Rate:	%	3.0%
Apartment Sale Value:	\$ Thousands	225

Cash Flows:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5				
Rental Income:	\$	12	\$	12	\$	13	\$	13	\$	14
Property (Purchase) / Sale:	(200)	-	-	-	-	-	225			
<b>Net Cash Flows:</b>	<b>\$ (200)</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 239</b>				

<b>Internal Rate of Return (IRR):</b>	<b>8.5%</b>
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Which of the following statements about this analysis is/are NOT valid?

- If this 8.5% IRR exceeds the expected annualized return on other, similar apartments in this area, then this apartment may be a better investment option than the others.
- You could have come up with a quick approximation for the IRR by observing that  $\$12 / \$200 = 6.0\%$ , and  $\$25 / \$200 = 12.5\%$ ;  $12.5\% / 5 = 2.5\%$ , and  $6.0\% + 2.5\% = 8.5\%$ .
- This 8.5% IRR means that if you invested \$200,000 and earned 8.5% on it each year, compounded annually, then you'd end up with the \$239,000 total shown at the end of Year 5.
- This 8.5% IRR means that if you invested \$200,000 and earned 8.5% on it each year, compounded annually, then you'd end up with the ~\$289,000 in total cash flows shown over Years 1 – 5.
- Statements 2, 3, and 4 are all invalid.
- Statements 2 and 3 are invalid.
- Statements 3 and 4 are invalid.