

## Seminář 1: Self-check test

1. A bank offers an effective annual rate (EAR) of 12%. Assuming quarterly compounding, the stated annual interest rate is closest to:  
A 11.66%.  
B 12.55%.  
C 11.49%.
2. A consultant starts a project today that will last for three years. Her compensation package includes the following:

Year	End-of-Year Payment
1	\$100,000
2	\$150,000
3	\$200,000

If she expects to invest these amounts at an annual interest rate of 3%, compounded annually until her retirement 10 years from now, the value at the end of 10 years is closest to:

- A \$618,994.  
B \$566,466.  
C \$460,590.

3. A portfolio provides the following returns over a five-year period.

Year	1	2	3	4	5
Return	10%	-25%	8%	5%	7%

The compound rate of return (p.a.) of the portfolio across the five-year period is closest to:

- A 0.02%.  
B 1.00%.  
C -9.31%.

4. The returns of a fund are as follows:

Year	Return (%)
1	-20.60
2	15.00
3	0.50
4	9.80
5	4.60

The mean absolute deviation (MAD) of returns for the fund is closest to:

- A 13.69%.
- B 9.53%.
- C 11.91%.

5. Two mutually exclusive projects have the following cash flows (€) and internal rates of return (IRR):

Project	IRR	Year 0	Year 1	Year 2	Year 3	Year 4
A	27.97%	-2,450	345	849	635	3,645
B	28.37%	-2,450	345	849	1,051	3,175

Assuming a discount rate of 8% annually for both projects, the best decision for the firm to make is to accept:

- A both projects.
- B Project B only.
- C Project A only.

6. The following information is available for a firm:

Sales price per unit	€85
Variable cost per unit	€65
Fixed operating costs	€50 million
Fixed financial costs	€30 million

The firm's breakeven quantity of sales (in million units) is closest to:

- A 4.0.
- B 2.5.
- C 1.0.

7. If the following three stocks are held in a portfolio, the portfolio's total return on an equal-weighted basis is closest to:

Stock	Number of Shares Owned	Beginning of Period Price per Share (\$)	End of Period Price per Share (\$)	Dividend per Share during the Period (\$)
A	500	40	37	2.00
B	320	50	52	1.50
C	800	30	34	0.00

- A 3.28%.
- B 5.94%.
- C 6.37%.

8. A company's income statement is provided in the table below:

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	<b>2018</b>
Net Revenue	\$22,570
Cost of Goods Sold	\$12,639
Selling Expenses	\$1,467
General and Administrative Expenses	\$2,031
Research and Development	\$722
Amortization	\$630
Interest Revenue	\$37
Interest Expense	\$203
Pretax Income	\$4,915
Income Tax	\$1,179
Net Income	\$3,736

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The company's operating profit margin is closest to:  
to:

- A 16.55%.
- B 21.77%.
- C 22.51%.