Common Exam Traps

17 Mistakes to Avoid · Modules 1.1 & 1.2

Module 1.1 — Rates of Return

Each trap is a wrong answer option the exam is built to tempt you with. Know why it is wrong.

1 Dividing by the ending price

WHY IT'S WRONG
Return is measured on what you invested at the start.

DO THIS INSTEAD
Price, distribution and total return all use the **beginning** price P_0.

2 Using the arithmetic mean for multi-period performance

WHY IT'S WRONG
$1,000 −25% then +25% ends at $937.50; the arithmetic mean says 0%.

DO THIS INSTEAD
Use the **geometric** mean: $\sqrt{(0.75 \times 1.25)} - 1 = -3.175\%$.

3 Taking the root by years when asked for the geometric mean per period

WHY IT'S WRONG
Four semiannual returns are four periods but two years.

DO THIS INSTEAD
Per-period geometric mean: root = **periods** (0.7435%).
Annual return: root = **years** (1.49%).

4 Annualizing by multiplying

WHY IT'S WRONG
0.75% × 365/90 = 3.04% ignores compounding.

DO THIS INSTEAD
Compound: $(1.0075)^{365/90} - 1$ = **3.08%**.

5 Forgetting that annualizing works for long periods too

WHY IT'S WRONG
A 500-day return must be scaled **down** to a yearly rate.

DO THIS INSTEAD
$(1.0309)^{365/500} - 1 = 2.25\%$. Same formula, exponent below 1.

6 Treating an annualized return as guaranteed

WHY IT'S WRONG
6.17% from one month's 0.5% assumes the same return every month.

DO THIS INSTEAD
Annualizing is for **comparison**; actual returns will vary.

7 Saying a 20% return is a 20% continuously compounded return

WHY IT'S WRONG
Continuous compounding reaches the same ending value with a lower stated rate.

DO THIS INSTEAD
$R_{cc} = \ln(1.20)$ = **18.232%**.

8 Adding discrete returns, or compounding continuous ones

WHY IT'S WRONG
Only continuously compounded returns are additive.

DO THIS INSTEAD
Add R_{cc}: 13.976% + 8.338% = 22.314%. Compound discrete returns.

9 Confusing ex ante and ex post

WHY IT'S WRONG
Ex ante = expected (future). Ex post = actual (past).

DO THIS INSTEAD
Remember: **ante** = before; **post** = after.

Module 1.2 — Components and Measures of Return

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10 Calling the T-bill rate a real risk-free rate

WHY IT'S WRONG
T-bills contain an inflation premium, so their rate is a **nominal** risk-free rate.

DO THIS INSTEAD
Real r_f = (1 + nominal)/(1 + inflation) − 1.

11 Saying an inflation-adjusted rate is risk-free

WHY IT'S WRONG
Removing inflation gives a **real** rate; it can still contain risk premiums.

DO THIS INSTEAD
Inflation removed → real rate. Risk premiums removed too → real risk-free rate.

12 Saying every interest rate contains a risk premium

WHY IT'S WRONG
A risk premium can be, but is not always, a component of an interest rate.

DO THIS INSTEAD
Interest rate = required return, discount rate, or opportunity cost of consumption.

13 Using the approximation when the exact answer is asked

WHY IT'S WRONG
7% − 2% = 5% but the exact real return is 4.9%.

DO THIS INSTEAD
Exact: (1.07/1.02) − 1. Check whether the options separate the two.

14 Thinking gross return is before all costs

WHY IT'S WRONG
Gross return already deducts trading commissions.

DO THIS INSTEAD
Gross = after transaction costs, before management fees. Net = after both.

15 Applying one tax rate to the total return

WHY IT'S WRONG
Capital gains and income are often taxed at different rates.

DO THIS INSTEAD
Tax each component: 25%(1 − 0.25) + 5%(1 − 0.40) = 21.75%.

16 Assuming leverage only increases returns

WHY IT'S WRONG
Borrowing costs are fixed; if the portfolio earns less than the borrowing rate, the loss is magnified.

DO THIS INSTEAD
−4% unleveraged → **−6.25%** leveraged. Leverage magnifies gains **and** losses.

17 Forgetting that derivatives are leveraged

WHY IT'S WRONG
The cash deposited is only a fraction of the value of the underlying.

DO THIS INSTEAD
Futures and options produce leveraged returns.

The rule behind most traps: returns compound, so work with (1 + r) — multiply and divide, don't add and subtract. The one exception: continuously compounded returns, which add.

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