9.02 Alternative Investment Performance and Returns

Question 1
A private equity fund specializes in leveraged buyouts. Its investors have committed a total of €45 million in capital. The fund has invested €40 million as of the end of 20X8 but has not yet demanded the remaining €5 million in commitments. For 20X8, the fund's assets generated a 15% unrealized gain, and the fund has not sold any of its investments. If the fund charges a 2% management fee and a 20% incentive fee, the total fees that the fund earned for 20X8 are *closest* to:
A. €900,000
B. €2,100,000
C. €2,120,000

Question 2
A hedge fund began the year with ¥20 billion in assets under management (AUM). It ended the year with ¥25 billion in AUM before deducting any fees.
The fund's fee structure is as follows:

- Management fee: 2% of AUM
- Incentive fee: 20% of profits, net of management fee, with a high-water mark of ¥23 billion and a 5% hard hurdle rate

The total fees charged by the fund for the year are *closest* to:
A. ¥570 million
B. ¥670 million
C. ¥800 million

Question 3
The seed investor of a three-year-old hedge fund that invests in high-yield private placements requests a redemption of £20 million. Fund details are listed below:

Fund assets	£50 million
High-water mark	£51 million
Fee structure	2% and 20%
Redemption notice period	2 weeks
Lockup period	1 year
Hurdle rate	2%
Average annual returns since inception	1.5%
Number of positions	20

Which of the following is the *most likely* outcome?

A. The forced liquidation causes the hedge fund to close.
B. There is sufficient time for an orderly disposition of assets.
C. The hedge fund could invoke the lockup clause, delaying the redemption.

Question 4
A private equity fund operates with a hard hurdle of 6% and a 20% performance fee. The firm draws down its €200 million initial investment to purchase a portfolio company. Three years later, the portfolio company is sold for €280 million. If the firm operated with a soft hurdle instead of a hard hurdle, the additional performance fees (in € millions) that the GP would earn is *closest* to:
A. 2.4
B. 7.6
C. 12.8

Question 5
A hedge fund has EUR 800 million of initial capital. The fund charges a 3.0% management fee and a 15.0% incentive fee based on returns that exceed a 5.0% hurdle rate. Over a year, the fund increases in value by 25.0%. Assuming that management fees are calculated using end-of-year assets under management and that the performance fee is calculated net of the management fee, a fund investor's return, net of fees, is *closest* to:
A. 12.4%
B. 14.6%
C. 18.8%

Question 6
At the end of 20X4, a hedge fund had $25 million in assets under management (AUM). The fund has the following fee structure, high-water mark, and 20X5 results:

Selected Data	
Management fee (average assets)	1%
Incentive fee (net of management fee)	10%
Soft hurdle rate	6%
High-water mark (millions)	$27
Year-end fund assets 20X5 (millions)	$30

Assuming no inflows or outflows, the incentive fee (in $) earned by this hedge fund for 20X5 is *closest* to:
A. 109,000
B. 272,500
C. 300,000

Question 7
An endowment invested €10 million into a hedge fund on January 1 of Year 1 and neither added nor withdrew funds since then. Information concerning the fund is shown as of the beginning of Year 5:

Assets under management (AUM), beginning of year	€200 million
Management fee	3% of year-end AUM
Incentive fee	20% of annual profits
Incentive fee calculation	Independent of management fee
Previous high-water mark	€250 million
Fund's return for the year	15%

The incentive fee is independent of the management fee and is subject to the high-water mark. If the fees are based on year-end AUM, then the endowment's return for the year is *closest* to:
A. 8.6%
B. 11.6%
C. 15.0%

Question 8
A hedge fund's fees are calculated independently, and the fund does not collect an incentive fee on assets that have already been subject to that fee. Which of the following *best describes* this fee structure?
A. Management and incentive fees are on a net basis, subject to a hurdle rate
B. Management fees are on a gross basis and incentive fees are on a net basis
C. Management and incentive fees are on a gross basis, subject to a high-water mark

Question 9
An investor *most appropriately* uses the Sharpe ratio as the risk-adjusted return measure for a hedge fund when the fund's:
A. holdings are illiquid.
B. returns are normally distributed.
C. strategy relies on significant leverage.

Question 10
A hedge fund manager wants the power to liquidate positions in a well-organized way whenever necessary and plans to impose restrictions on investors' ability to redeem capital. Which of the following restrictions would be *most appropriate*?
A. Notice period
B. Lockup period
C. Redemption fee

Question 11
Which of the following is the *least appropriate* ratio to use for evaluating the performance of a market-neutral hedge fund?
A. MAR ratio
B. Calmar ratio
C. Treynor ratio

Question 12
A hedge fund had the following attributes during 20X3:

Management fee	1.5%
Incentive fee	15.0%
Soft hurdle rate	5.0%
High-water mark	$200 million
Beginning assets	$191 million
Ending assets	$216 million

If the management fee is calculated on ending assets and the incentive fee is based on net returns, the return (%) to the investor for 20X3 is *closest* to:
A. 9.7
B. 10.4
C. 10.8

Question 13
The general partner of a private equity fund will *most likely* earn an incentive fee once the:
A. clawback provision has been invoked.
B. committed capital has been fully drawn down.
C. limited partners' initial investment has been paid back.

Question 14
An investor invests in the HFX fund of funds at the beginning of 20X2. At that time HFX has a net asset value of $240 million. HFX charges a 1% management fee assessed on ending assets under management and a 10% incentive fee assessed on profits before deducting the management fee. At the end of 20X2, HFX's net assets are valued at $270 million before the assessment of any fees. The annual return earned by the investor, net of all fees, is *closest* to:
A. 10.1%
B. 10.2%
C. 12.5%

Question 15
For performance appraisal of alternative investments, one advantage of using the IRR instead of the multiple of invested capital (MOIC) is that the IRR:
A. is perceived as more intuitive.
B. has a more straightforward calculation.
C. considers the timing of cash flow decisions.

Question 16
When evaluating the portfolio risk of an alternative investment with a leptokurtic return profile, which of the following is the *most appropriate* measure to capture drawdown risk?
A. Calmar ratio
B. Sharpe ratio
C. Treynor ratio

Question 17
The high-water mark used for incentive fee calculation is *most likely* based on a fund's:
A. net assets.
B. hurdle rate.
C. gross assets.

Question 18
An analyst using the Sortino ratio to evaluate an alternative investment is *most likely* interested in the investment's:
A. total risk.
B. downside risk.
C. systematic risk.

Question 19
A fund of funds (FoF) has a "1 and 10" fee structure, with all fees calculated independently at year end. At the beginning of the year, the FoF has €150 million equally allocated among three hedge funds. For the year, the hedge fund's' returns are −2%, 10%, and 16%. If the FoF has a high-water mark of €152 million, the total fee paid to the FoF is *closest* to:
A. €2.46 million.
B. €2.50 million.
C. €2.62 million.

Question 20
At the beginning of the year, a new fund of funds invests £300 million equally among three hedge funds. The fund of funds has a "1 and 10" fee structure and a 5% soft hurdle rate. Management and incentive fees are calculated independently at year end. After one year, the returns of the underlying hedge funds, gross of fees, are −2%, 6%, and 10%. The total fees paid to the fund of funds is *closest* to:

A. £3.14 million.
B. £4.54 million.
C. £4.74 million.

Question 21
The following table depicts a hedge fund's performance and fee information for year-end 20X7:

Assets	$130 million
Fund's net performance	30%
High-water mark	$100 million
Incentive fee	$3 million

Based on only the information provided, which of the following *best describes* the hedge fund's incentive fee structure?
A. A soft hurdle rate of 5% and a 10% incentive fee
B. A soft hurdle rate of 10% and a 12% incentive fee
C. A hard hurdle rate of 10% and a 10% incentive fee

Question 22
Using internal models to value the assets in a fund's portfolios is *most likely* for which of the following?
A. Macro hedge funds
B. Hedge funds specializing in distressed debt
C. Hedge funds focused on fundamental value strategies

Question 23
A hedge fund begins the year with £100 million in assets. The fund charges a 2% management fee and 20% incentive fee (calculated net of the management fee) on year-end assets, subject to a 6% hard hurdle rate. At year-end, the fund had appreciated by 8%. The investor's return is *closest* to:
A. 4.67%
B. 5.84%
C. 6.00%

Question 24
Within the context of a new hedge fund, which of the following *best describes* founders' shares? Founders' shares entitle early fund investors to:
A. a lower fee structure than subsequent investors.
B. lower fees in exchange for a longer lockup period.
C. an "either/or" fee structure of management fees or incentive fees.

Question 25
A hedge fund has the following fee structure, charged on year-end assets under management (AUM):

Annual management fee	1.5%
Incentive fee	12%
Soft hurdle rate	5%
High-water mark	$380 million

The fund value is $372 million at the beginning of the year and $412 million, before fees, at the end of the year. For this year, if fees are calculated independently, the net return to the investor is *closest* to:
A. 7.80%
B. 8.06%
C. 8.67%

Question 26
Which measure of private equity industry performance is *most likely* to be overstated?
A. Volatility
B. Published returns
C. Correlation with other assets

Question 27
A hedge fund begins the year with EUR 250 million in assets under management (AUM) and ends the year with EUR 300 million prior to deducting any fees. The fund charges a 1.5% management fee, calculated based on ending AUM, and an 18% incentive fee. There is no hurdle rate or high-water mark. If the incentive fee is calculated net of the management fee, the investor's return net of fees is *closest* to:
A. 12.4%
B. 14.6%
C. 14.9%

Question 28
A hedge fund charges a 2% management fee and a 20% incentive fee, with a hurdle rate of 5%. Both fees are calculated based on year-end assets under management (AUM), and the incentive fee is calculated net of the management fee. In addition, the incentive fee is subject to a high-water mark of €27 million. This year, the fund began the year with AUM of €25 million and realized a 10% return before fees. The net-of-fee return that an investor in the fund realized for the year is *closest* to:
A. 2.30%
B. 2.41%
C. 7.80%