3 Diving Deeper: Taking a Look at More Complex Securities

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Understand the role of investment companies in helping investors diversify their portfolios.

Become versed in limited partnerships — their formation, function, structure, tax advantages, and tax disadvantages.

Examine direct participation programs (DPPs) and real-estate investment trusts (REITs).

Get to know options — investment vehicles that allow investors to buy and sell securities at a fixed price.

IN THIS CHAPTER

- Taking advantage of management investment companies
- Understanding face-amount certificate companies and UITs
- Looking at annuities
- Taking a brief look at life insurance
- Checking your knowledge

Chapter 9
Delivering Diversification with Packaged Securities

Diversification is key when you're helping customers set up a portfolio of securities, and it's fairly easy when your customer has a good deal of money to invest. But what if an investor has limited resources? Certainly, such investors can't afford to buy hundreds of shares and/or debt securities of several companies, and you don't want to limit your customer to only one investment opportunity (heaven forbid it should go belly up). Packaged securities to the rescue! These securities, such as open-end funds, closed-end funds, face-amount certificate companies, unit investment trusts, and annuities, offer variety within one security by investing a customer's money in a diversified pool of securities — for a cost, of course. A bit of profit-driven teamwork can ensure your customers' investments are much safer than, say, investing in a one-armed bandit in one of the Vegas casinos.

In this chapter, I cover topics relating to investment companies and annuities. Open-end (mutual) funds and closed-end funds are only the beginning. I discuss face-amount certificate companies and trusts such as unit investment trusts. I also give you a look at life insurance products and wrap it all up by giving you a small quiz at the end of the chapter.

Looking at Investment Company Registration

As with other nonexempt securities, investment companies must register with the U.S. Securities and Exchange Commission (SEC). You need to understand certain specifics about the registration process when taking the SIE. When registering with the SEC, investment companies must disclose

- Whether the investment company will be open- or closed-end
- The names and addresses of affiliated people

- Whether the company plans to raise money by borrowing
- Whether they plan on investing in commodities or real estate
- How they plan on investing (a single industry, many industries, debt securities, and so on)
- Conditions under which the investment plan can change (a vote of shareholders, for example)
- The business experience of each director and officer

Diversifying through Management Investment Companies

In general, investment companies are those whose business is investing in securities. As such, they take the money received from investors and invest in a large number of different securities. Each investor shares in the profits or losses based on their interest in the investment company. The Investment Company Act of 1940 divides investment companies into three main types: management investment companies, face-amount certificate companies, and unit investment trusts. This section focuses on management investment companies, which are the more heavily tested areas of this chapter. I cover the other types in the aptly named "Considering Other Investment Company Options" section later.

Management companies are by far the most familiar type of investment company. The securities held by the management companies tend to be actively managed by portfolio managers, although they might be passive where a portfolio manager makes the initial choices but doesn't actively trade the account. As a subclassification of management companies, they are either *diversified* or *nondiversified*. To be diversified, a company must spread out at least 75 percent of its assets in the following way:

- The management company can't own more than 10 percent of the outstanding shares of a company.
- No more than 5 percent of the management company's money can be invested in one company's securities. However, through appreciation, one company may grow to more than 5 percent, which is fine, but the fund may not purchase any more of that company's securities unless it drops below 5 percent.


REMEMBER

Because the diversified portion relates to only 75 percent of the management company's assets, the other 25 percent can be invested in any way. Whether the management company is diversified or nondiversified must be in the prospectus.

Comparing open- and closed-end funds

Management companies are either open-end or closed-end funds. Make sure that you know the difference.

Open-end (mutual) funds

An *open-end fund* is more commonly known as a *mutual fund*. Like closed-end funds, mutual funds invest in many different securities to provide diversification for investors. The key difference is that mutual funds are constantly issuing and redeeming shares (shares are redeemed with the issuer and not sold in the market), which provides liquidity for investors. Because open-end

fund shares are continuous offerings of new shares, a mutual fund prospectus must always be available. You need to understand the makings of the net asset value and the public offering price when taking the SIE exam:

- **Net asset value (NAV):** Fortunately, the NAV or net asset value per share is determined the same way for both open- and closed-end funds: by dividing the value of the securities held by the fund by the number of shares outstanding. With open-end funds, however, the NAV is the bid price. When investors redeem shares of a mutual fund, they receive the next computed NAV (usually at the end of the day). This is also known as the *redemption value*. Mutual funds can never trade below the NAV.
- **Public offering price (POP):** For mutual funds, the public offering price (the ask price) is the NAV plus a sales charge. If a mutual fund doesn't charge a sales charge, it's called a *no-load fund.*


REMEMBER

Because mutual funds are new issues, investors must receive a statutory prospectus (for more on what a prospectus is, see Chapter 5) and/or receive a *summary prospectus* and have access to the statutory prospectus. Prospectuses for mutual funds include their holdings, investment strategy, fees, expenses, graphs of the fund's performance, and so on. Every prospectus for every security must contain a disclosure stating that the SEC doesn't approve of the issue. I assume that this disclosure is the SEC's way of not being sued if investors lose money. The SEC just clears the issue for sale to investors.

If the fund provides a summary prospectus, it must include items such as the fund's name and ticker symbol, the class of shares, the fund's investment strategies, investment objectives, costs of investing, investment advisers, financial compensation, risks, and performance. The summary prospectus may include an application that investors can use to purchase shares. Potential investors can also request a full prospectus before investing. If an investor purchases via a summary prospectus, they must either receive or be provided online access to a full prospectus.

On an ongoing basis, funds must include in their prospectus annual report graphs comparing the performance of the fund with a proper index (Standard & Poor's [S&P] 500, Nasdaq composite, and so on), items and/or strategies that may have affected the performance in the past year, and the name of the fund's manager.

Note: Expenses of a mutual fund include salaries for the board of directors; management (investment adviser) fees for the person or people who make the investment decisions for the fund; custodial fees for safeguarding assets (cash, securities, and so on) held by the fund; transfer agent fees for keeping track of investors, sending distributions, and sending proxies; and 12b-1 fees, if any. *12b-1 fees* are fees paid by a mutual fund out of the fund assets to cover promotional expenses such as advertising, printing and mailing of prospectuses to new investors, and so on. If there are 12b-1 fees, they must be included in the prospectus.

Closed-end funds

Unlike open-end funds, closed-end funds have a fixed number of shares outstanding (hence the word *closed*). Closed-end funds act more like common stock than open-end funds because they issue new shares to the public; after that, the shares are bought and sold in the market. Because they trade in the market, they're often called *publicly traded funds*. Although the net asset value of closed-end and open-end funds is calculated the same way, the public offering price is determined a little differently:

- **NAV:** The NAV or net asset value per share is the parity price at which the fund should be trading. You determine it by taking all of the assets owned by the fund, subtracting the

liabilities, and dividing by the number of shares outstanding. Closed-end funds may trade at a discount or premium compared to the NAV — based on supply and demand.

- **Public offering price (POP):** For closed-end funds, after the initial public offering (IPO) the public offering price (the ask price) depends not only on the NAV but also supply and demand for the issue. Investors of closed-end funds pay the POP (current market price) *plus* a broker's commission in an agency transaction.

Note: Although closed-end funds aren't purchased from and redeemed with the issuer, most offer a high degree of liquidity, based on the number of shares. After the initial offering, they can be purchased or sold either on an exchange (called exchange traded funds or ETFs) or over the counter (OTC).

Open and closed: Focusing on their differences

You can expect at least a question or two on the SIE exam relating to investment companies to test you on the differences between open-end and closed-end funds. Table 9-1 should help you zone in on the major distinctions.

TABLE 9-1 Comparing Open-End and Closed-End Funds

Category	Closed-End	Open-End
Capitalization	One-time offering of securities (fixed number of shares outstanding).	Continuous offering of new shares (no fixed number of shares outstanding).
Pricing the fund	Investors purchase at the current market value (POP) plus a commission.	Investors purchase at the NAV plus a sales charge.
Issues	Common stock, preferred stock, and debt securities.	Common stock only.
Shares purchased	Shares can be purchased in full only.	Shares can be purchased in full or fractions (up to three decimal places).
Purchased and sold	Initial public offerings (IPOs) go through underwriters; after that, investors purchase and sell shares either over-the-counter or on an exchange (no redemption).	Shares are sold and redeemed by the fund only.


REMEMBER

The key difference between open-end and closed-end funds is the method of capitalization. An open-end (mutual) fund is a continuous offering of new securities, whereas a closed-end fund is a one-time offering of new securities.

Keeping your customer's investment objectives in mind

Unlike investors in face-amount certificate companies and unit investment trusts (see "Considering Other Investment Company Options" later in this chapter), investors of open-end and closed-end funds have many choices available. Investors may be looking for safety, growth, a combination, and so on. This section gives you a glimpse into those investment choices.


REMEMBER

The single most important consideration for customers who invest in packaged securities is the fund's investment objectives. This feature surpasses even the sales charge or management fees. If you become a registered rep, one of your primary jobs will be to help investors decide which type of fund would be best for them. The test designers want to know you can handle that job.

Comparing like-type funds is secondary. So, without further ado, here are the major types (although variables within each fund can make a fund riskier or safer, I've placed the list in the normal order from safest to riskiest):

- **Money market fund:** This fund (as you've probably guessed) invests in money market instruments (short-term debt securities). You need to know the specifics of this fund more than other types of funds. Here are the key points:
  - It usually provides a check-writing feature (you're given a checkbook) as a way of redeeming shares.
  - It's always no-load (there's no sales charge).
  - It computes dividends daily and credits them monthly.
  - There's no penalty for early redemption.
- **Income fund:** The primary objective of an income fund is to provide current revenue (not growth) for investors. This type of fund invests most of its assets in a diversified portfolio of (a) debt securities that pay interest and in preferred and (b) common stock of companies that are known to pay consistent dividends in cash.

  
  REMEMBER

  Income funds are considered much safer (more conservative) investments than growth funds. You can assume for SIE exam (and real-life) purposes that income funds are better investment choices for retirees and investors who are looking for a steady cash flow without much risk.
- **Balanced fund:** A balanced fund is a combination of a growth fund and an income fund. Balanced funds invest in common stocks, preferred stocks, long-term bonds, and short-term bonds, aiming to provide both income and capital appreciation while minimizing risk. These funds don't get hammered too badly when the market is bearish but usually underperform when the market is bullish.
- **Growth fund:** This fund is exactly what you'd expect it to be; growth funds invest most of their assets in a diversified portfolio of the common stock of relatively new and existing companies, looking for big increases in the stock prices. Growth funds offer a higher potential for growth but usually at a higher risk for the investor. This type of fund is ideal for an investor who's looking for long-term capital appreciation potential.

  
  REMEMBER

  Because of the inherent risk of investing in growth funds, they're better for younger investors who can take the risk because they have more time to recover their losses.

  Some growth funds are labeled as *aggressive growth funds* because the securities it invests in are even riskier than those of a standard growth fund.
- **Specialized (sector) fund:** A specialized or sector fund is a type of fund that invests primarily in the securities of a single industry. A specialized fund may invest only in financial services, healthcare, automotive stocks, technology securities, and so on. Because specialized funds are limited in their investments, you can assume that in many cases, they're a little riskier (more volatile) than the average fund.
- **International or global fund:** An international fund invests in companies based anywhere outside of the investor's home country. A global fund invests in securities located anywhere in the world, including the investor's home country. Although international and global funds may be good to round out a portfolio, they aren't without their risks. Along with the risk that investors face by just investing in securities in general, holders of international and global funds also face currency risk, which is the risk that the currency exchange rate between the U.S. and foreign issuers will hurt investors. There's also the additional risk that politics in a particular country will harm the value of the fund.

- **Index fund:** This type of fund invests in securities that are similar to a particular stock or bond index. Rather than being actively managed, these types of funds are passively managed, which means investors can expect lower or no management fees. Investors can expect that the NAV of the fund will increase or decrease based on the movement of the benchmark index (S&P 500, DJIA, and so on) the fund mimics.

Hedge funds: What are they?

You've probably heard about hedge funds but aren't exactly sure what they are. For the SIE exam, you do need to know a little bit about them. Because they aren't open- or closed-end funds, unit investment trusts, or face-amount certificate companies, they are an exception to the standard definition of investment company under the Investment Company Act of 1940. In addition, because they are considered *private* equity and are *only* open to sophisticated (accredited) investors, they are exempt from SEC registration. Hedge funds often require a very high initial investment — sometimes $500,000 or more.

Hedge funds hold a pool of investments and are professionally managed like mutual (open-end) funds but have a lot more flexibility. Hedge funds are typically much more aggressive in nature and may buy securities on margin, sell securities short, purchase or sell options, and so on in an attempt to maximize gains. I guess you can almost think of them as a "whatever it takes to make money" type of fund.


TIP

Don't let the variety of funds distract you too much. So many different funds are out there that the choices could drive you crazy. I list the main types, but funds can invest by objective (as previously listed) or composition, such as with foreign stock funds (which invest in foreign securities), tax-exempt funds (which invest in municipal bonds), U.S. government funds, and so on. The composition of the fund should help you match it with your customer's objectives. A customer primarily looking for safety and income might invest in a U.S. government bond fund.

Dealing with discounts

Investors who have the extra funds available may be able to receive a reduced sales charge for large dollar purchases. Breakpoints (see the next sections) and the letter of intent (see the next sections) are available to investors of open-end funds and unit investment trusts. Because closed-end funds, after the initial offering, are traded in the market, investors do not receive breakpoints. Dollar cost averaging and fixed share averaging are most often used for open-end fund purchases but may apply to other investments as well.

FUND OF A FUND

A fund of funds is a fund that invests in other funds, as opposed to individual securities. Many funds are actually funds of funds, such as funds of hedge funds and *life-cycle funds*. Life-cycle funds are also called *targeted* or *age-based* funds. The idea behind life-cycle funds is to automatically adjust the composition of the fund so that investors take less risk as they get older. Typically, younger investors can afford to take more financial risk and, therefore, invest a larger percentage of their portfolio in equity securities and a lesser percentage in fixed-income securities. As investors grow older, the percentages should change so that a larger percentage of the portfolio is in fixed-income securities and a lesser percentage is in equity securities. Life-cycle funds are set up with targeted retirement dates. Investors choose the life-cycle fund that matches their retirement date, and the fund adjusts its holdings occasionally so that equity funds gradually decrease and funds that invest in fixed-income securities gradually increase.

Breakpoints

Funds have an investment adviser (portfolio manager) who gets paid a percentage of the value of the securities held in the fund. Therefore, one way to entice investors to spend more is to reduce the sales charge when they spend a certain minimum amount of money. That's where the breakpoint comes in.

Management investment companies divide purchase amounts into different tiers. Within a certain range, investors all pay the same sales charge percentage. But when investors spend and/or the account grows enough to put them in the next tier (when they hit the *breakpoint*), they get a reduced percentage sales charge. Breakpoints have no set schedule, so they vary from fund to fund.

Another discount, *rights of accumulation (ROA)*, allows shareholders to receive a reduced sales charge when the amount of the funds held (based on their current price, not purchase price) plus the amount purchased is enough to reach a breakpoint. There is no time limit for rights of accumulation.

Here are a few key points for you to remember for the SIE exam:

- Breakpoints must be disclosed in the prospectus.
- Breakpoints aren't available to partnerships or *investment clubs* (several people pooling money to receive reduced sales charges).
- Breakpoints are generally available to individual investors, joint accounts with family members, UGMA accounts, and corporations.

Breakpoint sales

As an agent, you're responsible for letting investors know about the existence of breakpoints. A *breakpoint sale* occurs when you induce a sale just below the level where an investor would receive a breakpoint or an additional sales discount. As shown in Table 9-2, you would make more money if a client purchased $23,000 worth of a fund instead of $25,000 because of the discounted sales charge the customer would receive at $25,000. It's your responsibility to let the client know that by investing $2,000 more, they can reach a breakpoint. Not disclosing breakpoints and inducing sales just below breakpoints are violations.

TABLE 9-2 Breakpoints for AylDec Growth Fund

Purchase Amount	Sales Charge
$1–$24,999	5%
$25,000–$49,999	3%
$50,000–$99,999	2%
$100,000 and up	1.5%

Letters of intent

A *letter of intent* (LOI) signed by an investor allows them to receive a breakpoint (quantity discount) right away with the initial purchase, even if the investor hasn't yet deposited enough money to achieve the breakpoint. This document states that as long as the investor deposits enough within a 13-month period, they will receive the discounted sales charge right away.

Here are a few specifics about the letter of intent that you need to know for the SIE:

- The investor has *13 months* after the first deposit to live up to the terms of the letter of intent in order to maintain the reduced sales charge.
- The LOI may be *backdated for up to 90 days,* meaning that it may apply to a previous purchase. However, remember that if the LOI applies to a previous purchase, the 13-month period starts from the date of that previous transaction.
- While the investor is under the letter of intent, shares are held in escrow to pay for the difference in the sales charge. If the investor doesn't live up to the terms of the obligation, the fund sells the shares held in escrow.

Here's how a letter of intent may work. Suppose that Mr. Smith purchased $10,000 worth of AylDec Growth Fund two months ago and is investing another $10,000 into the fund right now. Mr. Smith believes that he'll keep investing in AylDec Growth Fund and would like to get a reduced sales charge for investments of $25,000 and up (see Table 9-2 for the breakpoints).

Mr. Smith signs a LOI and wants to apply it to his previous purchase. Because his previous purchase was two months ago, Mr. Smith has only another 11 months to invest the remaining $5,000 into AylDec Growth Fund. Mr. Smith will receive the 3 percent sales charge on his $10,000 investment right now, which will be reduced by the overage he paid on the initial investment of $20,000. In other words, he'll pay only $100 sales charge on the current investment ($300 for this transaction minus the $200 overpaid from the previous investment) when he invests the $10,000. As long as Mr. Smith deposits the additional $5,000 by the end of the LOI's timeframe, he'll pay the 3 percent sales charge. However, if Mr. Smith doesn't live up to the terms of the agreement, AylDec Growth Fund will sell the shares held in escrow to pay for the difference in the sales charge.

REMEMBER

Investors may redeem their shares at any time, even if they're under a LOI.

Figuring the sales charge and public offering price of open-end funds

You need to know two basic formulas to determine the sales charge and public offering price of open-end funds. Yes, every chapter seems to have more formulas, but these formulas are pretty straightforward and shouldn't cause you too many sleepless nights.

Sales charge percent

The sales charge, which is set at a maximum of 8½ percent, is part of the public offering price (POP), or ask price, not something tacked on afterward like a sales tax. One of the tricks for calculating the sales charge (or *load*) for open-end funds is remembering that the POP equals 100 percent. Therefore, if the sales charge is 8 percent, the NAV is 92 percent of the POP. The formula for determining the sales charge percentage is as follows:

$$\text{sales charge} = \frac{\text{ask} - \text{bid}}{\text{ask}} = \frac{\text{POP} - \text{NAV}}{\text{POP}}$$

The following question tests your expertise in calculating the sales charge of a mutual fund.

EXAMPLE

ABC Aggressive Growth Fund has a net asset value of $9.60 and a public offering price of $10.00. What is the sales charge percent?

(A) 3.4 percent

(B) 3.75 percent

(C) 4 percent

(D) 4.35 percent

The right answer is (C). The first thing you have to do is set up the equation. Start with the POP of $10.00 and subtract the NAV of $9.60 to get $0.40. Next, divide the $0.40 by the POP of $10.00 to get the sales charge of 4 percent:

$$\text{sales charge} = \frac{\text{POP} - \text{NAV}}{\text{POP}} = \frac{\$10.00 - \$9.60}{\$10.00} = \frac{\$0.40}{\$10.00} = 4\%$$

TIP

To help you remember that the ask (offer) price of a fund is the same as the POP, remember to ask your POP about it.

Public offering price (POP)

When taking the SIE exam, you may be asked to figure out the POP of a mutual fund when you're given only the sales charge percent and the NAV.

REMEMBER

The sales charge is already part of the POP, so the sales charge is *not* equal to the sales charge percent times the NAV. Use the following formula to figure out how much an investor has to pay to buy shares of the fund when you know only the NAV and the sales charge percentage:

$$\text{public offering price} = \frac{\text{net asset value}}{100\% - \text{sales charge}}$$

Classifying the load

As I explain earlier in this chapter, most mutual funds charge a sales charge (also known as a *load*) that's built into the POP. Most charge up front, but some charge constantly; some charge when redeeming; and some don't charge a load at all. Depending on how investors are charged, mutual funds are broken into classes:

- **Class A (front-end load):** The investor pays the load when purchasing shares of the fund. These funds typically are better for long-term investors because they usually have lower expense ratios, and they have breakpoints for large dollar purchases.
- **Class B (back-end load):** The investor pays the load when redeeming shares of the fund. These funds have higher expense ratios than Class A but often convert to Class A if held for many years. Very few mutual fund companies offer Class B shares at this point.
- **Class C (level load):** The investors pay a periodic fee (usually, annually) over the time period that they hold the fund. These funds have higher expense ratios than Class A and have an exit fee, which is often eliminated after a year or two. These funds typically are the best option for short-term investors.
- **No-load:** Investors don't pay a sales charge but may be charged some sort of transaction fee. Unlike load mutual funds, no-load funds may not charge a 12b-1 fee greater than 25 basis points.

Considering Other Investment Company Options

A couple of other types of investment companies — face-amount certificate companies and unit investment trusts (UITs) — aren't as popular as they used to be. Unfortunately, even though you may never sell any, you do need to know them for the SIE exam. You probably won't see more than a question or two on these topics. But exchange-traded funds (ETFs) are becoming increasingly popular, so your chance of seeing a question on ETFs and/or inverse ETFs is pretty high.

Face-amount certificate companies

A *face-amount certificate* is a type of packaged security that's similar to a zero-coupon bond (see Chapter 7); investors make either a lump-sum payment or periodic payments in return for a larger future payment. The issuer of a face-amount certificate guarantees payment of the face amount (a fixed sum) to the investor at a preset date. Very few face-amount certificate companies are around today, which is why the SIE exam doesn't include many questions about this type of packaged security.

Unit investment trusts

A *unit investment trust* (UIT) is a registered investment company that purchases a fixed (unmanaged) portfolio of income-producing securities (typically, bonds) and holds them in trust, which means that a UIT acts as a holding company for its investors. Then the company issues redeemable shares (units) that represent investors' interest in the trust. Unlike mutual funds, UITs are set up for a specific period of time and have a set termination date. Any capital gains, interest, and/or dividends are passed on to shareholders at regular intervals.

UITs have a finite number of shares outstanding and are distributed in the primary market at the initial public offering (IPO) price. Because a limited number of shares are outstanding and must be redeemed with the issuer or sponsor, liquidity is very limited.

Like mutual (open-end) funds, UITs can be purchased by type, such as growth, income, balanced, international, and so forth.

Here are the two main categories of these trusts that you should be familiar with for the exam:

- **Fixed investment trusts:** These companies invest in a portfolio of debt securities, and the trust terminates when all the bonds in the portfolio mature.
- **Participating trusts:** These companies invest in shares of mutual funds. The mutual funds that the trust holds don't change, but the securities held by the underlying mutual funds do.


REMEMBER

Because the portfolio of securities is fixed, UITs don't employ investment advisers and, therefore, have no investment adviser fees during the life of the trust. Nice break!

Exchange-traded products (funds and notes)

Exchange-traded products (ETPs), which you're likely to encounter on the exam, include ETFs and exchange-traded notes (ETNs). ETPs are considered to be alternatives to investing in mutual funds; they not only provide diversification, like mutual funds but can also be sold short and

purchased on margin. Investors should be aware, however, that they'll typically be charged a commission for buying and selling ETPs, which can really cut into any potential profits.


REMEMBER

Most ETFs are *passive,* meaning that they're designed to be a single security that tracks certain indices such as the S&P 500, the S&P 100, the Dow Jones Industrial Average (DJIA), Nasdaq securities, and so on. Some ETFs are *active,* meaning that the securities they hold may change. Quite often, ETFs are designed to mirror securities held by certain mutual funds.

Exchange-traded funds

Exchange-traded funds (ETFs) are typically registered as open-end funds but act more like closed-end funds. They either passively track an index or other benchmark or are actively managed. ETFs, as the name implies are actively traded on an exchange. ETFs provide investors with diversification along with ease of trading, the ability to sell short, and purchase shares on margin. Although ETFs can include investments across many asset classes, their main focus is on stocks (equity funds) and bonds (bond funds).

Inverse ETFs (also known as *short ETFs* or *bear ETFs*) are exchange-traded funds that are designed using many derivative products (options, for example) to attempt to profit from a decline in the value of the underlying index (the S&P 500, for example). Inverse ETFs can be used to profit from a decline in a broad market index or in a specific sector, such as the energy or financial sectors.


REMEMBER

When compared to mutual funds, ETFs have some distinct advantages, including the ability to purchase shares on margin, ease of trading, and lower operating costs. Mutual funds have *forward pricing* — meaning that purchases or redemptions take place at the next computed public offering price (POP) or net asset value (NAV) — but ETFs can be traded any time throughout the day at the current bid or ask price.

A couple of disadvantages exist when comparing ETFs to mutual funds: Investors are typically charged commissions when buying and selling and, because they are so easy to trade, investors are more likely to trade excessively instead of holding their positions. (There are some commission-free ETFs but they usually have higher expense ratios.)

Leveraged ETFs are designed to attempt to return a *multiple* of the daily return of a benchmark index (the S&P 500, for example) that it tracks. (Think *multiplication* as in 2 times the daily return or 3 times the daily return.) Most leveraged and inverse ETFs are designed to achieve their objectives on a daily basis, which means that the securities held by the fund are changed more often than other funds.

Note: Because of the risk of inverse ETFs and leveraged ETFs, they are not long- or intermediate-term investments. In addition, because of the risk of these investments, it has to be determined by the firm if a customer is suitable for these investments prior to a recommendation. If a firm determines that a particular leveraged ETF or inverse ETF is suitable for recommendation, they have to determine which customers are suitable.

Exchange-traded notes

ETNs have characteristics of ETFs and fixed-income securities. ETNs are unsecured debt securities issued by a bank or financial institution. Their return is linked to a particular market index. ETNs don't provide dividends or coupon payments, so investors receive income at a specified maturity date. Because ETNs are traded on an exchange, they may be purchased on margin or sold short. If an investor holds an ETN until the maturity date, the investor receives a principal amount based on the performance of the index the note is tracking. Because ETNs are debt securities, they would be negatively impacted if the issuer's credit rating is downgraded. ETNs are not suitable for all investors because they're typically quite complex and carry many risks.

Investment company rules 17a-6 and 17a-7

There are certain additional rules for affiliated persons, advisers, officers, and/or directors of investment companies — specifically Rules 17a-6 and 17a-7. Please note the following important points.

- According to *Rule 17a-6*, affiliated persons of investment companies (persons affiliated with the manager of the fund, the custodian bank, and owners of 5 percent or more of the outstanding shares of the fund) are not allowed to trade securities within the fund's portfolio of securities. However, affiliated persons are certainly allowed to buy and redeem shares of the fund like regular public investors.
- *Rule 17a-7* says that advisers, officers, or directors may trade securities held by funds within the same family of funds (for example, trading securities held from the portfolio of securities of one of Fidelity's Large Value Funds to one of Fidelity's Large Blend Funds or vice versa).


REMEMBER

As with other securities, all investment company advertisements released by a broker-dealer must be approved by a registered principal of the firm.

Adding Annuities to a Portfolio

Annuities are similar to mutual funds, except annuities are designed to provide supplemental retirement income for investors and are typically more expensive than mutual funds. Life insurance companies issue annuities, and these investments provide guaranteed payments for the life of the holder. The SIE exam tests you on the two basic types of annuities: fixed and variable. Because variable annuities are considered securities and fixed annuities are not (because of the guaranteed payout by the insurance company), most of the annuity questions on the SIE exam are about variable annuities.


REMEMBER

Gather very specific information about your client before making recommendations. In addition, before recommending annuities, make sure you really understand the ins and outs and know what you're talking about. Annuities have been under the watchful eye of state insurance commissions and the SEC due to inappropriate recommendations from some brokers. Annuities typically aren't recommended for younger clients (most annuity purchasers are older than 50), for clients older than 75, or for a client's entire investment portfolio. For information on portfolio and securities analysis, see Chapter 13.

Looking at fixed annuities

The main thing for you to remember about *fixed annuities* is that they have fixed rates of return that the issuer guarantees. Investors pay money into fixed annuities, and the money is deposited into the insurance company's general account. After the investor starts receiving payments from the fixed annuity (usually monthly), the payments remain the same for the remainder of the investor's life. Because of the guaranteed payout, fixed annuities are *not* considered securities and, therefore, are exempt from SEC registration requirements and from the Investment Company Act of 1940. Therefore, whereas sellers of fixed annuities must have an appropriate insurance license, a securities license is not required.


REMEMBER

Because the payouts associated with a fixed annuity remain the same, they're subject to *purchasing power risk* (the risk that the investment won't keep up with inflation). An investor who received payments of $1,000 per month in the 1970s may have been able to survive; however, that amount today is not even likely to pay your monthly grocery bill.

Focusing on variable annuities

Insurance companies introduced variable annuities as a way to keep pace with (or hopefully exceed) inflation. In a fixed annuity, the insurance company bears the investment risk; however, in a variable annuity, the investment risk is borne by the investor. Because the investors assume the investment risk, variable annuities are considered securities and must be registered with the SEC. All variable annuities have to be sold with a prospectus, and only individuals who hold appropriate securities and insurance licenses can sell them.

The money that investors deposit is held in a *separate account* (separate from the insurance company's other business) because the money is invested differently. The separate account is invested in securities such as common stock, bonds, mutual funds, and so on, with the hope that the investments will keep pace with or exceed the inflation rate.

The *assumed interest rate* (AIR) is a projection of the performance of the securities in the separate account over the life of the variable annuity contract. If the assumed interest rate is 4 percent and the performance of the securities in the separate account is equal to 4 percent, the investor receives the payouts that they expect. However, if the securities outperform the AIR, the investor receives higher payouts than expected. And unfortunately, if the securities held in the separate account underperform the AIR, the investor gets lower payouts than expected.

Putting money into (and receiving money from) annuities

Investors have choices when purchasing annuities and getting distributions. Investors may choose a lump-sum payment or multiple payments, depending on their needs. Investors also have a choice regarding how they want to get their distributions at retirement.

The pay-in (accumulation) phase

Payments into both fixed and variable annuities are made from after-tax dollars, meaning that the investor can't write the payments off on their taxes. However, payments into both fixed and variable annuities grow on a tax-deferred basis. (They aren't taxed until the money is withdrawn.) If an investor has contributed $80,000 into a variable annuity that's now worth $120,000, the investor is taxed only on the $40,000 difference because they have already paid taxes on the contribution. If an annuitant dies during the pay-in phase, most annuity contracts require a *death benefit* to be paid to the annuitant's beneficiary. The death benefit is typically the greater of all the money in the account or some guaranteed minimum.

Note: During the pay-in phase, an investor of a variable annuity purchases *accumulation units.* You can think of the accumulation units as being similar to shares of a mutual fund.

Investors have a few payment options to select when purchasing fixed or variable annuities. Here's the rundown of options:

- **Single payment deferred annuity:** An investor purchases the annuity with a lump-sum payment, and the payouts are delayed until some predetermined date.
- **Periodic payment deferred annuity:** An investor makes periodic payments (usually monthly) into the annuity, and the payouts are delayed until some predetermined date; this is the most common type of annuity.
- **Immediate annuity:** An investor purchases the annuity with a large sum, and the payouts begin right away or within a couple months.

REMEMBER

Most annuities in which investors are making scheduled deposits provide a *waiver of premium* during the pay-in phase if the annuitant becomes disabled or is confined to long-term care.

Getting the payout

Investors of both fixed and variable annuities have several payout options. These options may cover just the *annuitant* (investor) or the annuitant and a survivor. No matter what type of payout option the investor chooses, they will be taxed on the amount above the contribution. The earnings grow on a tax-deferred basis, and the investor is not taxed on the earnings until withdrawal at retirement.

Note: During the payout phase (annuity phase) of a variable annuity, accumulation units are converted into a fixed number of *annuity units.* Investors receive a fixed number of annuity units periodically (usually monthly) with a variable value, depending on the performance of the securities in the separate account.

The kind of annuity (fixed or variable) and the payout options selected partly determines the payment amounts to the annuitant. So, when purchasing an annuity, the individual has to decide which of the following payout options works best for them:

- **Life (straight life) annuity:** This type of payment option provides income for the life of the *annuitant* (the individual covered by the annuity); however, after the annuitant dies, the insurance company stops making payments. This type of annuity is riskiest for the investor because if the annuitant dies earlier than expected, the insurance company gets to keep the leftover annuity money. Because it's the riskiest type of annuity for the annuitant, it has the highest payouts of all the options. As with joint life with last survivor annuities, life annuity payment amounts are based on the age and sex of the annuitant(s).
- **Life annuity with period certain:** This payout option guarantees payment to the annuitant for a minimum number of years (10, 20, and so on). For example, if the annuitant were to purchase an annuity with a 20-year guarantee and die after 7 years, a named beneficiary would receive the payments for the remaining 13 years.
- **Joint life with last survivor annuity:** This option guarantees payments over the lives of two individuals. As you can imagine, this type of annuity is typically set up for a spouse. If the wife dies first, the husband receives payments until his death. If the husband dies first, his wife receives payments until her death. Because this type of annuity covers the lifespans of two individuals, it has the lowest payouts.

REMEMBER

All annuities have a *mortality guarantee.* This guarantee means that the investor receives payments as long as they live, even if it's beyond their life expectancy.

Being mindful of the early withdrawal penalty

As with most other retirement plans, annuity investors are hit with a 10 percent early withdrawal penalty if they withdraw the money before age 59½. Yes, that's correct — the 10 percent penalty is added to the investor's tax bracket. Typically, annuities include a waiver of the 10 percent penalty in cases such as the need to cover long-term care expenses, death, or disability.

Understanding the Investment Component of Variable Life Insurance Products

You may wonder what life insurance is doing in the SIE, which is mainly about investments. Well, the answer is that certain life insurance products (specifically, *variable life* [VLI] and *variable universal life* [VUL]) have an investment component. Like variable annuities, variable life and variable universal life insurance policies have a separate account for investing. That separate account is kept separate from the insurance company's general fund. You won't need to know too much about the aforementioned insurance products, so I'll keep it brief.


REMEMBER

Persons selling variable annuities, variable life insurance, and variable universal life insurance must have not only an appropriate securities license but also an insurance license. Before recommending any of the previously mentioned products, you should do an analysis of the client's needs and make appropriate recommendations.

Variable life

Variable life policies have a fixed premium. As with variable annuities, the investor chooses the investments held in a separate account. The death benefit (face amount) on the policy is fixed to a minimum but not to a maximum. The death benefit may increase depending on the performance of the securities held in the separate account. If the separate account performs poorly, there may be limited or no cash value built up. Policyholders may borrow up to 75 percent of the cash value.

Variable universal life

Unlike variable life policies, variable universal life policies do not have fixed premiums. As such, they are sometimes called flexible premium variable life policies. As with variable life policies, the investors can pick the securities held in the separate account. In this case, since the premium is not fixed and the securities held in the separate account may perform poorly, the minimum death benefit and cash value are not guaranteed.


TIP

Variable annuities, variable life insurance, and variable universal life insurance may be referred to as *variable contracts* on the exam.

Testing Your Knowledge

This chapter touched base with some basics about different types of investment companies, annuities, life insurance, and so on. There are 15 questions here, so go ahead and see how you do. Good luck!

Practice questions

1. Which of the following is TRUE of mutual funds?

   I. They are a one-time offering of new securities.

   II. The issuer continuously offers new shares.

   III. Shares must be sold in the market.

   IV. Shares are redeemed with the issuer.

   (A) I and III

   (B) I and IV

   (C) II and III

   (D) II and IV

2. For an investment company to be considered diversified, what is the maximum percentage of outstanding shares that the investment company can own of another company?

   (A) 1 percent

   (B) 5 percent

   (C) 10 percent

   (D) 15 percent

3. A fund that uses leverage, options, short sales, as well as other speculative investment strategies in an attempt to maximize gains is called a

   (A) balanced fund

   (B) growth fund

   (C) aggressive growth fund

   (D) hedge fund

4. Which of the following is TRUE about a letter of intent?

   I. It remains in effect for 13 months.

   II. It may be backdated for up to 90 days.

   III. Shares may be held in escrow.

   (A) I and II

   (B) I and III

   (C) II and III

   (D) I, II, and III

5. What is the maximum sales charge for a mutual fund?

   (A) 8 percent, which is built into the public offering price

   (B) 8 percent, which is added to the public offering price

   (C) 8½ percent, which is built into the public offering price

   (D) 8½ percent, which is added to the public offering price

6. Which of the following is exempt from the Investment Company Act of 1940?

(A) Mutual funds
(B) Closed-end funds
(C) Fixed annuities
(D) Variable annuities

7. Which of the following is true of private-equity funds?

I. They are exempt from SEC registration.
II. They must be registered with the SEC.
III. They may purchase private companies.
IV. They may not purchase private companies.

(A) I and III
(B) I and IV
(C) II and III
(D) II and IV

8. A _____ fund only invests in a specific industry.

(A) Sector
(B) Hedge
(C) Balanced
(D) Growth or aggressive growth

9. Open-end funds may issue

(A) common stock
(B) preferred stock
(C) bonds
(D) all of the above

10. TUV Balanced Fund has a net asset value of $21.40 and a public offering price of $22.60. What is the sales charge percent?

(A) 5.15 percent
(B) 5.30 percent
(C) 5.60 percent
(D) 5.66 percent

11. FerdCo Communications Fund has a NAV of $14.20 and a POP of $15.02. FerdCo offers breakpoints for large dollar purchases. If FerdCo is only charging a 4 percent sales charge for purchases between $20,000 and $30,000, how many shares would Smith receive if purchasing $25,000 worth?

(A) 1,597.225 shares
(B) 1,662.882 shares
(C) 1,664.447 shares
(D) 1,690.331 shares

12. Which of the following can be purchased on margin?

(A) ETFs
(B) Mutual fund Class A shares
(C) Life-cycle funds
(D) Money market funds

13. All of the following are ways a variable annuity can be purchased EXCEPT

(A) immediate annuity
(B) payment deferred immediate annuity
(C) sngle payment deferred annuity
(D) periodic payment deferred annuity

14. Which of the following life insurance products has a fixed premium?

(A) Variable life
(B) Variable universal life
(C) Both (A) and (B)
(D) Neither (A) nor (B)

15. Which of the following are TRUE about variable annuities?

I. Investors purchase accumulation units during the pay-in phase.
II. Investors purchase annuity units during the pay-in phase.
III. If the performance of the securities held in the separate account exceeds the assumed interest rate, payouts increase.
IV. Payments to variable annuities are made from pretax dollars.

(A) I and III
(B) I, III, and IV
(C) II and III
(D) II, III, and IV

Answers and explanations

1. **D.** Mutual funds are open-end funds. Mutual fund issuers continuously offer new shares. Holders sell their shares by redeeming them with the issuer. By contrast, the issuer of a closed-end fund would sell the securities once, and then they would be traded in the market.

2. **C.** According to the Investment Company Act of 1940, out of the 75 percent that must be diversified, a diversified investment company may not own more than 10 percent of outstanding shares of another company. In addition, the investment company cannot invest more than 5 percent of its diversified assets into one issuer's securities.

3. **D.** Hedge funds are the most speculative (riskiest) type of fund. Hedge funds are available to accredited investors and are allowed to execute trades that other funds cannot.

4. **D.** Letters of intent allow mutual fund investors to receive a breakpoint (discounted sales charge for large dollar purchases) right away as long as they purchase enough of the fund within 13 months to receive the breakpoint. It may be backdated for up to 90 days so that the 13-month period can apply to a previous purchase. The issuer may hold shares in escrow to make sure the investor lives up to the terms of the letter of intent.

5. **C.** The maximum sales charge for a mutual fund is 8½ percent of the amount invested. This means that investors make their purchase at the public offering price, which already has the sales charge built in.

6. **C.** Fixed annuities are not considered investment companies since the payout is guaranteed by the issuing insurance company.

7. **A.** Private-equity funds are only available to sophisticated (accredited) investors and are exempt from SEC registration. As part of their investment strategy, they may purchase private companies and/or purchase enough shares of public companies to gain control.

8. **A.** Sector funds invest in specific industries, such as automotives, pharmaceutical, energy, technology, and so on.

9. **A.** Open-end (mutual) funds may only issue common stock. Conversely, closed-end funds may issue common stock, preferred stock, and bonds.

10. **B.** With mutual funds, the sales charge is built into the public offering price (POP), so you have to subtract the net asset value (NAV) from the POP and then divide that by the POP. Check out the following equation:

$$\text{sales charge} = \frac{\text{POP} - \text{NAV}}{\text{POP}} = \frac{\$22.60 - \$21.40}{\$22.60} = \frac{\$1.20}{\$22.60} = 5.3\%$$

11. **D.** Because this investor is depositing enough to receive a breakpoint, the investor will not be paying the regular POP (public offering price). So, to determine what this investor will be paying per share, you have to calculate their POP. Look at the following equation:

$$\text{POP} = \frac{\text{NAV}}{100\% - \text{sales charge}} = \frac{\$14.20}{100\% - 4\%} = \frac{\$14.20}{96\%} = \$14.79 \text{ per share}$$

Okay, you got the difficult part of the question completed. Now all you have to do is divide the dollar purchase by Smith's cost per share. Don't let the fact that you may end up with fractional shares confuse you because you're allowed to purchase fractional shares of mutual funds.

$$\frac{\$25{,}000 \text{ invested}}{\$14.79 \text{ per share}} = 1{,}690.331 \text{ shares}$$

12. **A.** ETFs (Exchange-Traded Funds) can be purchased on margin, which provides investors with a leveraged position with increased risk. All of the other choices listed must be paid for in full. Since mutual funds are new securities, they may not be purchased on margin but are marginable after being held for 30 days.

13. **B.** (A), (C), and (D) are all possible ways of purchasing a variable annuity. However, an insurance company is not going to let you collect on an annuity when not a single payment has been made, as stated in (B).

14. **A.** Variable life insurance has a fixed premium, and the death benefit is fixed as to a minimum but not a maximum. If the securities held in the separate account outperform the expected return, the death benefit increases. Unlike variable life, variable universal life has a flexible premium. In this case, if the securities held in the separate account underperform, the death benefit and cash value are not guaranteed.

15. **A.** Looking at all of the answer choices, you see that III has to be true because it's in all of the answers. When an investor purchases an annuity, they're purchasing accumulation units. During the payout phase, the accumulation units are converted into annuity units. Unlike many retirement plans, purchases of annuities are made from after-tax dollars — in other words, they can't be written off on your taxes.

IN THIS CHAPTER

- Understanding the specifics of DPPs
- Distinguishing a limited partner from a general partner
- Getting a handle on the paperwork and taxes involved
- Looking at the different types of DPPs
- Mitigating real-estate risk with REITs
- Taking a chapter quiz

Chapter 10
Working with Direct Participation Programs (DPPs) and REITs

Direct participation programs (DPPs) can raise money to invest in real estate, oil and gas, equipment leasing, and so on. More commonly known as limited partnerships, these businesses are somewhat similar to corporations (stockholder-owned companies). Limited partnerships, however, have some specific tax advantages (and disadvantages) that a lot of other investments don't have. According to tax laws, limited partnerships aren't taxed directly; the income or losses are passed directly through to the investors.

DPPs were once known as tax shelters because of the tax benefits to investors, but tax law changes have taken away a lot of these advantages. As a result, DPPs have somewhat fallen out of favor for investors (though not entirely for the SIE exam designers).

In this chapter, I explain the differences between limited and general partners, as well as the types of partnerships, their particular risks, and their potential rewards. The info here can help you examine those risks and rewards and determine the suitability of DPPs for investors. I also explain two inevitable facts of life as they apply to partnerships: the filing of paperwork and the payment of taxes. Finally, I explain the ins and outs and some of the specifics you need to know about real-estate investment trusts (REITs). Unlike mutual funds that invest in a pool of securities, REITs invest in real estate. If you can't wait, they're discussed toward the end of the chapter. At the very end, I test your knowledge with a quick chapter quiz.

Searching for Identity: What DPPs Are (and Aren't)

Just as stockholders are owners of a corporation, limited (and general) partners are owners of a direct participation program. The key difference for people investing in DPPs is that they're *illiquid*, so investors can expect that their investment dollars will be tied up for a long period of time, though they receive tax advantages for doing so. Most DPPs (at least the ones you'll be tested on) are set up for real-estate projects, oil and gas projects, or equipment leasing.


REMEMBER

The Internal Revenue Service (IRS) determines whether an enterprise is a corporation or a limited partnership. For a limited partnership to be considered (and taxed) as a limited partnership, it has to avoid at least two of the following corporate characteristics (usually, the last two):

- **Having a centralized management:** Corporations have management in one place. The challenges of managing a limited partnership from several locations make this corporate trait quite difficult for a partnership to avoid.
- **Providing limited liability:** Corporate shareholders have limited liability; well, so do limited partners. The liability of corporate shareholders is limited to the amount invested, and the liability of limited partners is limited to the amount invested plus a portion of any recourse loans taken out by the partnership (if any). Therefore, investors of a limited partnership would have limited liability unless a limited partner takes on an active role in the management decisions. If a limited partner takes on an active role in management, they could be considered a general partner and have unlimited liability.
- **Having perpetual (never-ending) life:** Unlike corporations, which hope to last forever, limited partnerships are set up for a defined period of time. Limited partnerships are dissolved at a predetermined time, such as when their goals are met or after a set number of years.
- **Having free transferability of partnership interest:** DPPs are difficult to get into and out of. Unlike shares of stock, which can be freely bought and sold by anyone, limited partners not only have to pass the scrutiny of a registered rep, but also require the approval of the general partner. DPP investors (limited partners) must show that they have enough money to invest initially and have liquidity in other investments in the event that the partnership needs a loan.


REMEMBER

For SIE exam purposes, you need to remember that the easiest corporate characteristics for a partnership to avoid are perpetual life (continuity of life) and free transferability of shares; the most difficult to avoid are providing limited liability and having a centralized management.

The DPP Characters: General and Limited Partners

By law, limited partnerships require at least one limited partner and one general partner. Limited partners are the investors, and general partners are the managers. When you're looking at general and limited partners, you want to focus on who can and can't do what.

General partners are responsible for the day-to-day decision-making (overseeing operations, deciding when to buy or sell, choosing what to invest in, and so on) for the partnership. Limited partners (the investors) provide the bulk of the money for the partnership but, unlike general partners, they can't make any of the partnership's investment decisions. Table 10-1 lays out the key things to remember about general and limited partners for the SIE.

TABLE 10-1 Comparing General and Limited Partners

Category	General Partners	Limited Partners
Decision-making	Are legally bound to make decisions in the best interest of the partnership; make all the partnership's day-to-day decisions	Have voting rights but can't make decisions for the partnership
Tasks	Buy and sell property for the partnership; manage the partnership's assets	Provide capital; vote; can keep general partners in check by reviewing books
Liability and litigation	Have unlimited liability (can be sued and held personally liable for all partnership debts and losses)	Have limited liability (limited to the amount invested and a proportionate share of any recourse loans taken by the partnership); can inspect all the partnership books; can sue the general partner or can sue to dissolve the partnership
Financial involvement	Maintain a financial interest in the partnership	Provide money contributed to the partnership, recourse debt of the partnership, and nonrecourse debt for real-estate DPPs
Financial rewards	Receive compensation for managing the partnership	Receive their proportion of profits and losses
Conflicts of interest	Can't borrow money from the partnership; can't compete against the partnership (can't manage two buildings for two different partnerships in close proximity, for example)	None; can invest in competing partnerships

Partnerships are usually set up as *tenants in common* (TIC). Each limited partner owns an undivided interest in the property held by the partnership. In addition, in the event that one of the limited partners dies, their partnership interest will be passed to a beneficiary or to their estate.

Pushing through Partnership Paperwork

For the SIE exam, you need to know about certain paperwork that's specific to limited partnerships. In the following sections, I discuss the three documents necessary for a limited partnership to exist.

Partnership agreement

The *partnership agreement* is a document that includes the rights and responsibilities of the limited and general partners. Included in the agreement are basics that you would probably guess, such as the name of the partnership, the location of the partnership, the name(s) of the general partner(s), and so on. In addition, the partnership agreement addresses the general partner's rights to

- Charge a management fee for making decisions for the partnership
- Enter the partnership into contracts
- Decide whether cash distributions will be made to the limited partners
- Accept or decline limited partners

Certificate of limited partnership

The *certificate of limited partnership* is the legal agreement between the general and limited partners, which is filed with the U.S. Securities and Exchange Commission (SEC) for public offerings and the secretary of state in the home state of the partnership. The certificate of limited partnership includes basic information such as the name of the partnership and its primary place of business, the names and addresses of the limited and general partner(s), and the following items:

- The objectives (goals) of the partnership and how long the partnership is expected to last
- The amount contributed by each partner, plus future expected investments
- How the profits are to be distributed
- The roles of the participants
- How the partnership can be dissolved
- Whether a limited partner can sell or assign their interest in the partnership

If any significant changes are made to the partnership, such as adding new limited partners, the certificate of limited partnership must be amended accordingly.

Subscription agreement

The *subscription agreement* is an application form that potential limited partners have to complete. The general partner uses this agreement to determine whether an investor is suitable to become a limited partner. The general partner has to sign the subscription agreement to officially accept an investor into the DPP.

One of your jobs as a registered rep is to prescreen the potential limited partner to make sure that the partnership is a good fit for that person. Consider the following questions:

- Does the investor have enough money to invest (net worth and annual income)?
- Does the investor have enough cash or liquidity in other investments in case the partnership needs more money?
- Is the potential partner okay with tying up money for a long period of time?
- Can they handle the risks?

Also, you need to review the agreement to ensure (to the best of your ability) that the information the investor provides is complete and accurate. Besides the investor's payment, the subscription agreement has to include items such as the investor's net worth and annual income, a statement explaining the risks of investing in the partnership, and a power of attorney that allows the general partner to make partnership investment decisions for the limited partner. The subscription agreement is typically sent in with some form of payment from the potential limited partner.

Passive Income and Losses: Looking at Taxes on Partnerships

DPPs used to be called tax shelters because DPPs flow through (or pass through) not only income, but also losses to investors. (Corporations flow through only income.) Before 1986, investors could write off these losses against income from other investments, such as capital gains. Then

Congress stepped in because it felt that this write-off was too much of an advantage for investors (or our elected officials felt that the IRS wasn't collecting enough money) and decided to give DPPs their own tax category. Now, because investors aren't actively involved in earning the income, taxes on DPPs are classified as *passive income* and *passive losses.* (See Chapter 15 for more info on taxes and types of income.)

REMEMBER

The key thing to remember for SIE purposes is that investors can write off passive losses only against passive income from other DPP investments.

Evaluating DPPs

DPPs can be offered publicly or privately. Public offerings of DPPs must be registered with the SEC, whereas private offerings (offerings to mostly wealthy investors) are not. Typically, publicly offered DPPs have a lower unit (buy-in) cost than that of privately offered DPPs.

Certainly, direct participation programs provide some advantages, but they also have additional risks that investors don't face with other types of investments, such as having to lend additional money to the partnership if necessary. Therefore, when evaluating whether an investment in a DPP may be right for one of your clients, you need to determine whether investing in a partnership is wise for that client, and as their representative, you also need to consider the following items:

- The economic soundness of the program. In other words, do you think it will be profitable?
- The expertise (track record) of the general partner.
- The basic objectives of the program.
- The start-up costs involved.

Checking Out Types of Partnerships

Partnerships can be formed to run just about any sort of business that you can imagine, but the SIE exam focuses on the big three: real estate, equipment leasing, and oil and gas. You need to be able to identify the risks and potential rewards of each of the following types of partnerships.

REMEMBER

Because of the risks associated with some types of DPPs, investors should have the ability to tie up their money for a long period of time and be able to recover from a loss of all the money invested in case the partnership never becomes profitable.

Building on real-estate partnership info

Real-estate limited partnerships (RELPs) include programs that invest in raw land, new construction, existing properties, or government-assisted housing. You need to know the differences among the types of programs, along with their risks and potential rewards. Here are the types of real-estate DPPs, from safest to riskiest:

- **Public housing (government-assisted housing programs):** This type of real-estate DPP develops low-income and retirement housing. The focus of this type of DPP is to earn

consistent income and receive tax credits. The U.S. government (through subsidies), via the U.S. Department of Housing and Urban Development (HUD), makes up any deficient rent payments. Appreciation potential is low, and maintenance costs can be high, but the DPP does benefit from some level of government security. Public-housing DPPs are backed by the U.S. government and, therefore, are typically considered to be the safest real-estate DPPs.

- **Existing properties:** This type of DPP purchases existing properties with the intent of generating a regular stream of rental income. Because the properties already exist, this DPP generates immediate cash flow. The risks with this type of DPP are that the maintenance or repair expenses will eat into the profit and that tenants won't renew their leases. The properties already exist and are producing income, so risk for this type of DPP is relatively low.
- **New construction:** This type of DPP purchases property for the purpose of building. After completing the construction, the partnership's goal is to sell the property and structure at a profit after all expenses. Building costs may be more than expected, and the partnership doesn't receive income until the property is sold, but the DPP can benefit from appreciation on both the land and the structure. Although this investment is speculative (risky), it's not as risky as a raw-land DPP.
- **Raw land:** This type of DPP invests in undeveloped land in anticipation of long-term capital appreciation, which means raw-land DPPs don't actually build on or rent out the property. The partnership hopes that the property purchased will appreciate in value so that the DPP can sell the property for more than the purchase price plus all expenses.

  Raw-land DPPs are considered to be the riskiest real-estate DPPs because the partnership doesn't have any cash flow (no rental or sales income) and the value of the land may not increase; it may actually decrease.


REMEMBER


TIP

The main thing to remember with real-estate DPPs is that depending on which type you invest in, they can provide capital growth potential through the appreciation of property held by the DPP; cash flow for DPPs that hold rentals; tax deductions for mortgage interest, depreciation, and capital improvements; and tax credits for DPPs that hold government-assisted housing.

Gearing up with equipment leasing

Although you may be tested on equipment leasing programs on the SIE exam, it's typically the least-tested type of DPP on securities exams. Equipment leasing programs purchase equipment (trucks, heavy machinery, computers, you name it) and lease it out to other businesses. The objective is to obtain a steady cash flow and depreciation write-offs. The two types of leasing arrangements you need to be aware of are the operating lease and the full payout lease:

- **Operating lease:** This type of equipment leasing program purchases equipment and leases it for a short period of time. The DPP doesn't receive the full value of the equipment during the first lease. This type of arrangement allows the DPP to lease the equipment several times during the life of the machinery.
- **Full payout lease:** This type of equipment leasing program purchases the equipment and leases it out for a long period of time. The DPP receives enough income from the first lease to cover the cost of the equipment and any financing costs. Usually, the initial lease lasts for the useful life of the equipment.


REMEMBER

The main thing to remember about equipment leasing is that the operating lease is riskier, because the equipment becomes less valuable or outdated over time and, therefore, less rentable.

Strengthening your grasp on oil and gas

Oil and gas partnerships include programs that produce income, are speculative in nature, or are a combination of the two. You need to know how the types of programs differ, along with their risks and potential rewards. Oil and gas partnerships also have certain tax advantages that are unique:

- **Intangible drilling costs (IDCs):** IDCs are write-offs for drilling expenses. The word *intangible* is your clue that you're not talking about actual equipment. These costs include wages for employees, fuel, repairs, hauling of equipment, insurance, and so on. IDCs are usually completely deductible in the tax year in which the intangible costs occur. IDC deductions are only for drilling and preparing a well for the production of oil and gas.
- **Tangible drilling costs (TDCs):** TDCs are write-offs on items purchased that have salvage value (items that can be resold). All oil and gas DPPs have TDCs, which include costs for purchasing items such as storage tanks and well equipment. These costs aren't written off immediately but are *depreciated* (deducted) over several years. Depreciation may be claimed on either a straight-line basis (writing off an equal amount each year) or an accelerated basis (writing off more in the early years and less in the later years).

  IDCs are fully deductible in the current year; TDCs are depreciated (deductible) over several years.

REMEMBER

- **Depletion:** Depletion is a tax deduction that allows partnerships that deal with natural resources (such as oil and gas) to take a deduction for the decreasing supply of the resource. Partnerships can claim depletion deductions on only the amount of natural resources sold (not extracted and put in storage for future sale).

  Depletion deductions are only for DPPs that deal with natural resources. On the SIE exam, the only DPP with depletion deductions that you need to be concerned about is oil and gas.

REMEMBER

When investing in oil, partnerships can pioneer new territory, drill near existing wells, buy producing wells, or try a combination of those methods. For SIE-exam purposes, exploratory programs are the riskiest oil and gas DPPs because oil may never be found, and income programs are the safest oil and gas DPPs. To make your life easier (I hope), I've composed a DPP comparison chart (see Table 10-2) to help you focus on the main points of each type of oil and gas DPP.

TABLE 10-2 Advantages and Risks of Various Oil and Gas DPPs

Type	Objective	Advantages	Risks
Exploratory (wildcatting)	To locate and drill for oil in unproven, undiscovered areas	Long-term capital appreciation potential; high returns for discovery of new oil or gas reserves	Riskiest oil and gas DPP because new oil reserves may never be found; high IDCs because the DPP isn't working with producing wells
Developmental	To drill near producing wells with the hope of finding new reserves	Long-term capital appreciation potential with less risk than exploratory programs; oil will likely be found	The property's expensive; the drilling costs may be higher than expected; the risk of dry holes (nonproducing wells) is still somewhat high; medium level of IDCs
Income	To provide immediate income by purchasing producing wells	The partnership generates immediate cash flow; the least risky of the oil and gas DPPs; no IDCs	High initial costs; the well could dry up; gas prices could go down
Combination	To provide income to help pay for the cost of finding new oil reserves	The ability to offset the costs of drilling new wells by using income generated by existing wells	Carries the risks of all the programs combined

The following question concerns different DPP investments.

EXAMPLE

Ayla has money invested in a limited partnership that's expected to have a significant amount of income over the next one to two years. Which of the following programs would BEST help Ayla shelter the MOST of that income?

(A) Oil and gas exploratory

(B) Raw land purchasing

(C) Equipment leasing

(D) Existing real-estate property

The answer you want is (A). Oil and gas exploratory programs spend a lot of money attempting to find and drill for oil. These programs have high IDCs, which are fully tax-deductible when the drilling occurs. Therefore, the oil and gas exploratory programs have the largest write-offs in the early years, which could help Ayla offset some or all of their passive income from the other limited partnership.

REMEMBER

Unlike corporations, DPPs have an ending date. That date could be predetermined as placed in the partnership agreement, when a project is completed (such as when buildings are built and sold, oil is found and the land is sold, equipment is sold, and so on), or when the limited partners vote to dissolve the partnership. When the partnership is dissolved, the first to be paid out of the partnership assets are secured creditors; then general creditors are paid; next, limited partners are paid; and the last to be paid are the general partners.

Reducing Real-Estate Risk with REITs

A real-estate investment trust (REIT) invests in real-estate–related projects such as properties, mortgage loans, and construction loans. REITs pool the capital of many investors to manage property and/or purchase mortgage loans. Like other trusts, they issue shares to investors representing their interest in the trust. REITs registered with the SEC are known as *public REITs*, and those that aren't registered with the SEC are known as *private REITs*. In addition, REITs may be listed on an exchange or can trade over the counter. (See Chapter 14 for more info on markets.) They also provide real estate diversification and liquidity for investors.

REITs are distributed in the primary market at the initial public offering (IPO) price. Unlike mutual funds, which are redeemed with the issuer, REITs are traded (bought and sold) in the secondary market (the sale of outstanding securities) to other investors. In addition, REITs have a finite number of shares outstanding, like closed-end funds. Because REITs are traded in the secondary market, their price may be at a discount or premium to the net asset value (NAV; see Chapter 9), depending on profitability and investor sentiment.

Types of REITs include the following:

- **Equity REITs** take equity positions in real-estate properties; the income is derived from rent collected or profits made when the properties are sold. Equity REITs typically hold income-producing properties like apartments, shopping malls, vacation resorts, and so on.
- **Mortgage REITs** purchase construction loans and mortgages. The trust receives the interest paid on the loans and in turn passes it on to the owners of the trust (the investors).

- **Hybrid REITs** are a combination of equity and mortgage REITs. Hybrid REITs generate income derived from rent and capital gains (like equity REITs) and interest (like mortgage REITs).

As for taxation, REITs can avoid being taxed like a corporation if

- At least 75 percent of the income comes from activities related to real-estate.
- At least 75 percent of the REIT's assets are in real estate, government securities, and/or cash.
- At least 90 percent of the net income received is distributed to shareholders (who pay taxes on the income). Which means that, unlike corporations that are taxed at the corporate level and investors who are taxed on the cash dividends, there's no double taxation with REITs if they follow these rules. So, for individuals investing in REITs, they have *tax-advantaged income.*


WARNING

Don't get REITs confused with real-estate limited partnerships. Limited partnerships, such as RELPs, pass on (the industry term is *pass through*) income and losses to investors to claim on their own personal tax return; REITs only pass income and gains through to investors, not losses or write-offs.

REITS may be sold as private placements, nonlisted, or listed. Check out the following list of specifics:

- **Private (private placement) REITs:** REITs may be sold privately. Private REITs are exempt from SEC registration, and their shares don't trade on a national securities exchange, such as the New York Stock Exchange. As such, they're not subject to the same disclosure requirements as exchange-listed or public nonlisted REITs. Private REITs are exempt from SEC registration under Regulation D of the Securities Act of 1933. (See Chapter 5.) In general, private REITs can be sold only to accredited investors and institutional investors. Because they aren't sold on an exchange and can't be sold to just any investor, private REITs aren't liquid investments.
- **Registered nonlisted REITs:** Registered nonlisted REITs are also known as public nonlisted REITs (PNLRs). PNLRs are registered with the SEC but don't trade on a major exchange. PNLRs are similar to listed REITs in every way, including disclosure requirements, except that they're not as liquid. PNLRs may be purchased and sold over the counter and some issuers have periodic (daily or less frequent) repurchase options that allow investors to sell shares back to the issuer at the NAV.
- **Listed REITs:** As you can imagine, listed REITs are ones that have to register with the SEC and are also listed on one or more national exchanges. So listed REITs provide the highest degree of liquidity to investors.

Don't kill yourself worrying too much about REITs (not that you would); you won't get more than one or two questions on the SIE relating to REITs.

Testing Your Knowledge

This chapter gives you a brief glimpse of limited partnerships and real-estate investment trusts. Even in some of the top-off exams like the Series 7, there isn't a tremendous amount of material to cover. Following is a ten-question quiz. Have fun!

Practice questions

1. Which of the following is NOT TRUE of real-estate investment trusts?

   (A) They may trade at a discount to the NAV.

   (B) They may invest in construction loans.

   (C) They are redeemable securities.

   (D) None of the above.

2. When making a public offering, which of the following documents is a limited partnership required to file with the SEC?

   (A) Certificate of limited partnership

   (B) Agreement of limited partnership

   (C) Subscription agreement

   (D) All of the above

3. Passive income can be written off against which of the following?

   (A) Passive losses

   (B) Capital losses

   (C) Both (A) and (B)

   (D) Neither (A) nor (B)

4. Which of the following types of oil and gas partnerships is the riskiest?

   (A) Exploratory

   (B) Developmental

   (C) Income

   (D) Combination

5. Which of the following documents must be signed by a general partner to accept a new limited partner?

   (A) Partnership welcome form

   (B) Certificate of limited partnership

   (C) Agreement of limited partnership

   (D) Subscription agreement

6. Which two of the following corporate characteristics are the easiest for a limited partnership to avoid?

   I. Having perpetual life

   II. Providing limited liability

   III. Having centralized management

   IV. Having free transferability

   (A) I and III

   (B) I and IV

   (C) II and III

   (D) II and IV

7. Which of the following is a benefit of investing in a direct participation program?

(A) Professional management

(B) Pass-through of income and losses

(C) Limited liability

(D) All of the above

8. Which of the following partnership documents includes the rights and responsibilities of the general and limited partners?

(A) Certificate of limited partnership

(B) Subscription agreement

(C) Partnership agreement

(D) Both (A) and (C)

9. Depletion deductions may be claimed for

(A) equipment leasing programs

(B) raw land real-estate programs

(C) exploratory oil and gas programs

(D) income oil and gas programs

10. Which of the following real-estate investment trusts have income that is derived at least partially from rent collected?

I. Equity REITs

II. Mortgage REITs

III. Hybrid REITs

(A) I and III

(B) II and III

(C) I and II

(D) I, II, and III

Answers and explanations

1. **C.** REITs are a one-time offering of securities, and after the IPO, they must be purchased and sold in the market. They're not redeemed with the issuer, like mutual funds.

2. **A.** A limited partnership must file a certificate of limited partnership with the SEC before making a public offering.

3. **A.** Passive income is income received from a limited partnership. Passive income can be written off against passive losses but not capital losses.

4. **A.** Exploratory programs are the riskiest because the partnership is drilling in unproven areas trying to find oil. As with other investments, typically, the more risk investors take, the more potential reward. For this type of program, the risks are greatest, but if the partnership finds oil, the rewards should be much higher than those of other oil and gas programs.

5. **D.** To officially accept a new limited partner to the partnership, a general partner must sign the subscription agreement.

6. **B.** For a partnership to not be taxed as a corporation, it must avoid at least two corporate characteristics. The easiest corporate characteristics for a partnership to avoid are having a perpetual life (partnerships are set up for a finite period of time) and having free transferability to partnership interest. Because of the approval process, limited partnerships are some of the most difficult investments to get into and out of.

7. **D.** All the choices listed are benefits of investing in a limited partnership. Investors are certainly getting (or hoping for) professional management by way of a general partner. Also, because a partnership isn't taxed as a corporation, the gains and losses are passed through to investors. In addition, limited partners' losses are limited to the amount invested plus any recourse loans (for real-estate DPPs only).

8. **C.** The partnership agreement lays out the rights and responsibilities of the limited and general partner(s).

9. **D.** To claim depletion deductions, the partnership has to be depleting a natural resource. Of the choices given, only oil and gas programs deal with a natural resource. Exploratory programs (ones that are looking for oil) don't have depletion deductions until they actually hit oil and start pulling it from the ground, like income programs.

10. **A.** Both equity REITs and hybrid REITs, which are a combination of equity and mortgage REITs, derive part of their income from rent collected from property that is owned.

IN THIS CHAPTER

- Understanding the specifics of options
- Feeling comfortable with an options chart
- Calculating the maximum loss, maximum gain, and break-even points
- Discovering more about option rules
- Taking a chapter quiz

Chapter 11
Options: Understanding the Basics of Puts and Calls

Welcome to the wonderful world of options. I'm sure you've heard stories about the difficulty of options. Put your mind at ease; I'm here to make your life easier. Maybe I'm a little warped, but options are my favorite part of the SIE exam!

You don't have to do a lot of calculations related to options on the SIE, but the ones that you do have to do are relatively simple. More of the option questions on this exam are about understanding the terminology and rules. But in this chapter, I make facing any math questions you may encounter as simple as possible for you. At the end of this chapter, you get a chance to test your knowledge of options with a chapter quiz.


TIP

Many more-complex options strategies exist — straddles, spreads, combinations, and so on — but you won't need to calculate any of them on the SIE exam. If you're planning to take the Series 7 exam after this one, however, be prepared.

Brushing Up on Option Basics

Options are just another investment vehicle that (ideally) more-savvy investors can use. Options may be used for *hedging* to protect a securities position or for *speculation*, when looking to trade or exercise an option at a profit.

An owner of an *option* has the right, but not the obligation, to buy or sell an underlying security (stock, bond, and so on) at a fixed price; as derivatives, options draw their value from that underlying security. Investors may either *exercise* the option (buy or sell the security at the fixed price), trade the option in the market, or let it expire.

All option strategies, whether simple or sophisticated, when broken down are made up of simple call and/or put options. After going over how to read an option, I explain a basic call option and help you figure out how to work with that before moving on to a put option. Next, I discuss options that are in-, at-, or out-of-the-money and the cost of options. After you've sufficiently mastered the basics, the rest (the more-difficult strategies later in this chapter) becomes easier.

Reading an option

To answer SIE questions relating to options, you have to be able to read an option. The following example shows you how an option may appear on the real exam:

> Buy 1 XYZ Apr 60 call at 5

Here are the seven elements of the option order ticket and how they apply to the example:

1. **Whether the investor is buying or selling the option: Buy**

   When an investor buys (or *longs, holds,* or *owns*) an option, they are in a position of power; that investor controls the option and decides whether and when to exercise the option. If an investor is selling *(shorting* or *writing)* an option, they are obligated to live up to the terms of the contract and must either purchase or sell the underlying stock if the holder exercises the option.

2. **The contract size: 1**

   You can assume that one option contract is for *100 shares* of the underlying stock. Although this idea isn't as heavily tested on the SIE exam, an investor may buy or sell multiple options (for example, five) if they're interested in having a position in more shares of stock. If an investor owns five option contracts, they're interested in 500 shares of stock, which you will need to know in more detail when taking other exams such as the Series 7.

3. **The name of the stock: XYZ**

   In this case, XYZ is the underlying stock that the investor has a right to purchase at a fixed price.

4. **The expiration month for the options: Apr**

   All options are owned for a fixed period of time. The expiration for new options used to be *9 months* from the issue date. Now, investors can also purchase options with weekly and quarterly maturities as well as long-term options (*long-term equity anticipation securities*, known affectionately as LEAPS), In the preceding example, the option will expire in April — more specifically, at 4 p.m. EST (3 p.m. CST) on the third Friday in April. (All options expire on the third Friday of the expiration month.)


REMEMBER

   EST (Eastern Standard Time) is generally easier to recall than CST (Central Standard Time) and is more often tested.

5. **The strike (exercise) price of the option: 60**

   When the holder (*purchaser* or *owner*) *exercises* the option, they use the option contract to make the seller of the option buy or sell the underlying stock at the strike price. (See the next step for info on determining whether the seller is obligated to buy or sell.) In this case, if the holder were to exercise the option, the holder of the option would be able to purchase 100 shares of XYZ at $60 per share.

6. **The type of option: call**

   An investor can buy or sell a call option or buy or sell a put option. Calls give holders the right to buy the underlying security at a set price, whereas puts give holders the right to sell. So, in the

example scenario, the holder has the right to buy the underlying security at the price stated in the preceding step.

7. **The premium: 5**

   Of course, an option investor doesn't get to have the option for nothing. An investor buys the option at the premium. In this case, the premium is 5, so a purchaser would have to pay $500 (5 × 100 shares per option).

Looking at call options: The right to buy


REMEMBER

A *call option* gives the holder (owner) the right, but not the obligation, to buy 100 shares of a security at a fixed price and the seller the obligation to sell the stock at the fixed price. (If the seller does not own 100 shares of the underlying security, they would have to purchase them in the market to be able to fulfill their obligation.) Owners of call options are bullish (picture a bull charging forward) because the investors want the price of the stock to increase. If the price of the stock increases above the strike price, holders can either exercise the option (buy the stock at a good price) or sell the option for a profit. By contrast, sellers of call options are neutral or bearish (imagine a bear hibernating for the winter) because they want the price of the stock to either stay the same or decrease.

Assume that Ms. Smith buys 1 DEF Oct 40 call option. Ms. Smith bought the right to purchase 100 shares of DEF at 40. If the price of DEF increases to more than $40 per share, this option becomes very valuable to Ms. Smith because she can purchase the stock at $40 per share and sell it at the market price or sell the option at a higher price.

If DEF never eclipses the 40 strike (exercise) price, the option doesn't work out for poor Ms. Smith, and she doesn't exercise the option. However, it does work out for the seller of the option, because the seller receives a premium for selling the option, and the seller gets to pocket that premium.

Checking out put options: The right to sell


REMEMBER

You can think of a put option as being the opposite of a call option (see the preceding section). The holder of a *put option* has the right to sell 100 shares of a security at a fixed price, and the writer (seller) of a put option has the obligation to buy the stock if exercised. Owners of put options are bearish because the investors want the price of the stock to decrease (so they can buy the stock at market price and immediately sell it at the higher strike price or sell their option at a higher premium). However, sellers of put options are bullish (they want the price of the stock to increase), because that would keep the option from going in-the-money (see the next section) and allow them to keep the premiums they received.

Assume that Mr. Jones buys 1 ABC October 60 put option. Mr. Jones is buying the right to sell 100 shares of ABC at 60. If the price of ABC decreases to less than $60 per share, this option becomes very valuable to Mr. Jones. If you were in Mr. Jones's shoes and ABC were to drop to $50 per share, you could purchase the stock in the market and exercise (use) the option to sell the stock at $60 per share, which would make you (the new Mr. Jones) very happy.

If ABC never drops below the 60 strike (exercise) price, the option doesn't work out for Mr. Jones and he doesn't exercise the option. However, it does work out for the seller of the option, because the seller receives a premium for selling the option that she gets to keep.

Getting your money back: Options in-, at-, or out-of-the-money

To determine whether an option is in- or out-of-the-money, you have to figure out whether the investor would be able to get at least some of his premium money back if the option were exercised.


REMEMBER

You can figure out how much an option is in-the-money or out-of-the-money by finding the difference between the market value and the strike price. Here's how you know where in-the-money an option is:

- When an option is *in-the-money,* exercising the option lets investors sell a security for more than its current market value or purchase it for less — a pretty good deal.

  The *intrinsic value* of an option is the amount that the option is in-the-money; if an option is out-of-the-money or at-the-money, the intrinsic value is zero.
- When an option is *out-of-the-money,* exercising the option means investors can't get the best prices; they'd have to buy the security for more than its market value or sell it for less. Obviously, holders of options that are out-of-the-money don't exercise them.
- When the strike price is the same as the market price, the option is *at-the-money;* this is true whether the option is a call or a put.

Call options — the right to buy — go in-the-money when the price of the stock is above the strike price. Suppose that an investor buys a DEF 60 call option and that DEF is trading at 62. In this case, the option would be in-the-money by two points (the option's intrinsic value). If that same investor were to buy that DEF 60 call option when DEF was trading at 55, the option would be out-of-the-money by five points (with an intrinsic value of zero).

A put option — the right to sell — goes in-the-money when the price of the stock drops below the strike price. For example, a TUV 80 call option is in-the-money when the price of TUV drops below 80. The reverse holds as well: If a put option is in-the-money when the price of the stock is below the strike price, it must be out-of-the-money when the price of the stock is above the strike price.


WARNING

Don't take the cost of the option (the premium) into consideration when determining whether an option is in-the-money or out-of-the-money. Having an option that's in-the-money is not the same as making a profit. (See the next section for info on premiums.)


TIP

Use the phrases *call up* and *put down* to recall when an option goes in-the-money. *Call up* can help you remember that a *call* option is in-the-money when the market price is *up*, or above the strike price. *Put down* can help you remember that a *put* option is in-the-money when the market price is *down*, or below the strike price.

The following question tests your knowledge of options being in- or out-of-the-money.

EXAMPLE

Which TWO of the following options are in-the-money if ABC is trading at 62 and DEF is trading at 44?

I. An ABC Oct 60 call option

II. An ABC Oct 70 call option

III. A DEF May 40 put option

IV. A DEF May 50 put option

(A) I and III

(B) I and IV

(C) II and III

(D) II and IV

The correct answer is (B). Start with the strike (exercise) prices. You're *calling up* or *putting down* from the strike prices, not from the market prices. Because call options go in-the-money when the market price is above the strike price, Statement I is the only one that works for ABC. An ABC 60 call option would be in-the-money when the price of ABC is above 60. ABC is currently trading at 62, so that 60 call option is in-the-money. For the ABC 70 call option to be in-the-money, ABC would have to be trading higher than 70. Next, use *put down* for the DEF put options, because put options go in-the-money when the price of the stock goes below the strike price. Therefore, Statement IV makes sense because DEF is trading at 44, and that's below the DEF 50 put strike price but not the 40 put strike price.

When someone is *short* an option, it means that they sold the option. This person is on the opposite side of the transaction than the person who is long the option. In this case, the seller received a premium for selling the option. So, someone who is short an option is doing so for income and is hoping that the option expires out-of-the-money so that they get to keep the premium.

REMEMBER

When people purchase an option, it is said that they are *long* the option. An investor who is long an option has paid the premium for the option so they need the option to go in-the-money (the price of the underlying security to go in the correct direction) enough for them to not only recoup their premium but also make a few bucks.

Paying the premium: The cost of an option

The *premium* of an option is the amount that the purchaser pays for the option. The premium may increase or decrease depending on whether an option goes in- or out-of-the-money, gets closer to expiration, and so on. The premium is made up of many different factors, including

- Whether the option is in-the-money (see the preceding section)
- The amount of time the investor has to use the option
- The volatility of the underlying security
- Investor sentiment (for example, whether buying calls on ABC stock is the cool thing to do right now)

One of the simple options math questions you may run across on the SIE exam requires you to figure out the time value of an option premium. *Time value* has to do with how long you have until an option expires. There's no set standard for time value, such as every month until an option

expires costs buyers an extra $100. However, you can assume that if two options have everything in common except for the expiration month, the one with the longer expiration will have a higher premium. Ideally, the following equation can help keep you from getting a pit in your stomach:

$$P = I + T$$

In this formula, *P* is the premium or cost of the option, *I* is the intrinsic value of the option (the amount the option is in-the-money), and *T* is the time value of the option.

Here's how you find the time value for a BIF Oct 50 call option if the premium is 6 and BIF is trading at 52: Call options (the right to buy) go in-the-money when the price of the stock goes above the strike price (*call up* — see the preceding section). Because BIF is trading at 52 and the option is a 50 call option, it's two points in-the-money; therefore, the intrinsic value is two. Because the premium is six and the intrinsic value is two, the premium must include four as a time value:

$$P = I + T$$
$$6 = 2 + T$$
$$T = 4$$

The following question tests your knowledge of using the formula $P = I + T$.

EXAMPLE

Use the following chart to answer the next question.

Stock	Strike Price	Calls		Puts	
LMN		July	Oct	July	Oct
40.50	30	13	14.5	0.25	0.50
40.50	40	2.5	4.5	1.5	2.75
40.50	50	0.25	0.75	10.5	12

What is the time value of an LMN October 30 call?

(A) 2.5

(B) 4

(C) 6.25

(D) 9.5

The answer you're looking for is (B). I threw you a curveball by giving you a chart similar to what you may see on the SIE exam. I hope you're able to find the premium that you need to answer the question. Most of the exhibits you get on the SIE are simple, and solving the problem is just a matter of locating the information you need.

In the chart, the first column shows the price of the stock trading in the market, the second column shows the strike prices for the options, and the rest of the chart shows the premiums for the calls and puts and the expiration months. Scan the chart under the October calls, which is in the fourth column; then look for the 30 strike price, which is in the first row of data. The column and row intersect at a premium of 14.5.

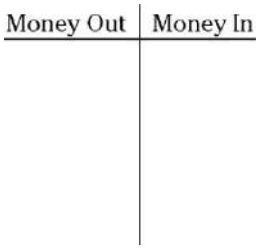
Now you need to find the intrinsic value (how much the option is in-the-money). Remember that call options go in-the-money when the price of the stock is above the strike price (call up). This

is a 30 call option, and the price of the stock is 40.50, which is 10.5 above the strike price. Plug in the numbers, and you find that the premium includes a time value of 4:

P (premium) = I (intrinsic value) + T (time value)
14.5 = 10.5 + T
T = 4

Incorporating Standard Option Math

I'm here to make your life easier. Prep courses use several different types of charts and formulas to figure out things such as gains or losses, break-even points, maximum gain or loss, and so on. I believe that the easiest way is to use the options chart that follows. It's a simple Money Out, Money In chart you can use to plug in numbers. What's great about this chart is that you don't even necessarily have to understand what the heck is going on to determine the answers to most options questions. As this chapter progresses, I show you how incredibly useful the options chart can be.



If it looks basic, it is — and that's the idea. Any time an investor spends money, you place that value in the Money Out side of the options chart, and any time an investor receives money, you place the number in the Money In side of the chart.

Calls same: Buying or selling call options

The most basic options calculations involve buying or selling call or put options. Although using the options chart may not be totally necessary for the more basic calculations (such as the one that follows in the next section), working with the chart now can help you get used to the tool so you'll be ready when the SIE exam tests your sanity with more-complex calculations.

As you work with options charts, you may notice a pattern when determining maximum losses and gains. Table 11-1 gives you a quick reference concerning the maximum gain or maximum loss an investor faces when buying or selling call options. Notice that the buyer's loss is equal to the seller's gain (and vice versa).

TABLE 11-1 Maximum Gains and Losses for Call Options

Buying or Selling	Maximum Loss	Maximum Gain
Buying a call	Premium	Unlimited
Selling a call	Unlimited	Premium

TIP

The key phrase to remember when working with call options is *calls same*, which means that the premium and the strike price go on the same side of the options chart.

Buying call options

The following steps show you how to calculate the maximum loss and gain for holders of call options (which give the holder the right to buy). I also show you how to find the break-even point. Here's the order ticket for the example calculations:

Buy 1 XYZ Oct 40 call at 5

1. **Find the maximum loss.**

   The holder of an option doesn't have to exercise it, so the most they can lose is the premium. The premium is five, so this investor purchased the option for \$500 (5 × 100 shares per option); therefore, you enter that value in the Money Out side of the options chart (think "money out of the investor's pocket"). According to the chart, the maximum loss (the most this investor can lose) is \$500.

Money Out	Money In
\$500	

2. **Determine the maximum gain.**

   To calculate the maximum gain, you have to exercise the option at the strike price. The strike price is 40, so you enter \$4,000 (40 strike price × 100 shares per option) under its premium (which you added to the chart when calculating maximum loss); exercising the call means buying the stock, so that's Money Out. When exercising call options, always put the multiplied strike price under its premium. (Remember *calls same:* The premium and the strike price go on the same side of the options chart.)

Money Out	Money In
\$500	
\$4,000	

   Because you've already determined the maximum loss, look at the Money In portion of the options chart. The Money In is empty, so the maximum gain (the most money the investor can make) is unlimited.

When you see a question about the break-even point, the SIE examiners are asking, "At what point does this investor not have a gain or loss?" The simplest way to figure out this point for a call option is to use *call up* (remember that call options go in-the-money when the price of the

stock goes above the strike price — see the earlier section "Getting your money back: Options in-, at-, or out-of-the-money"). When using *call up*, you add the strike price to the premium:

$$\text{strike price} + \text{premium} = 40 + 5 = 45.$$

For this investor, the break-even point is 45. This number makes sense because the investor paid $5 for the option, so the option has to go $5 in-the-money for the investor to recoup the amount they paid. ***Note:*** The break-even point is always the same for the buyer and the seller.

Selling call options

Here, I show you how to find the maximum gain and loss, as well as the break-even point, for sellers of call options. Here's the order ticket for the example calculations:

Sell 1 ZYX Oct 60 call at 2

1. **Determine the maximum gain.**

   The seller makes money only if the holder fails to exercise the option or exercises it when the option is in-the-money by less than the premium received. This investor sold the option for $200 (2 × 100 shares per option); therefore, you enter that amount in the Money In side of the options chart. According to the chart, the maximum gain (the most that this investor can make) is the $200 premium received. ***Note:*** The exercised strike price of $6,000 (60 × 100 shares) doesn't come into play when determining the maximum gain in this example because the holder of the option would exercise the option only if it were in-the-money.

Money Out	Money In
	$200

2. **Find the maximum loss.**

   To calculate the maximum loss, you need to exercise the option at the strike price. The strike price is 60, so you enter $6,000 (60 strike price × 100 shares per option) under its premium. The $6,000 goes in the Money In side of the options chart because this investor had to sell the stock to the holder at the strike price (60 × 100 shares). When exercising call options, always enter the multiplied strike price under its premium. (Remember *calls same:* The premium and the strike price go on the same side of the options chart.)

Money Out	Money In
	$200
	$6,000

   You've already determined the maximum gain; now look at the Money Out portion of the options chart. The Money Out is empty, so the maximum loss (the most money the investor can lose) is unlimited.

When you see a question about the break-even point, the examiners are asking you, "At what point does this investor not have a gain or loss?" The simplest way to figure this out for a call option is to use *call up.* When using *call up,* you add the strike price to the premium:

$$\text{strike price} + \text{premium} = 60 + 2 = 62$$

For this investor, the break-even point is 62. This makes sense because the investor received $2 for the option, so the option has to go $2 in-the-money for this investor to lose the amount that she received for selling the option. Call options go in-the-money when the price of the stock goes above the strike price.

Puts switch: Buying or selling put options

Fortunately, when you're calculating the buying or selling of put options (which give the holder the right to sell), you use the options chart in the same way but with a slight change (see the preceding section for info on call options). Instead of using *calls same* as you do with call options, you use *puts switch* — in other words, you place the premium and the strike price on opposite sides of the options chart.

Table 11-2 serves as a quick reference regarding the maximum gain or maximum loss an investor faces when buying or selling put options.

TABLE 11-2 Maximum Gains and Losses for Put Options

Buying or Selling	Maximum Loss	Maximum Gain
Buying a put	Premium	(strike – premium) × 100 shares
Selling a put	(strike – premium) × 100 shares	Premium

Buying put options

This section explains how to find the maximum loss, maximum gain, and the break-even point for buyers (holders) of put options. Here's the ticket order for the calculations:

Buy 1 TUV Oct 55 put at 6

1. **Find the maximum loss.**

   Exercising an option is, well, optional for the holder, so buyers of put options can't lose more than the premium. Because this investor purchased the option for $600 (6 × 100 shares per option), you enter that value in the Money Out side of the options chart. The maximum loss (the most that this investor can lose) is the $600 premium paid.

Money Out	Money In
$600	

2. **Determine the maximum gain.**

   To find the maximum gain, you have to exercise the option at the strike price. The strike price is 55, so you enter $5,500 (55 strike price × 100 shares per option) on the opposite side of the options chart. (Remember *puts switch:* The premium and the strike price go on opposite sides of the options chart.) Exercising the option means selling the underlying stock, so that $5,500 is Money In.

Money Out	Money In
$600	$5,500

   You've already determined the maximum loss; now look at the Money In portion of the options chart. Because you find $4,900 more Money In than Money Out ($5,500 – $600), the maximum gain is $4,900.

The break-even point is the security price where the investor doesn't have a gain or loss. The simplest way to figure out this point for a put option is to use *put down* (put options go in-the-money when the price of the stock goes below the strike price). When using *put down*, you subtract the premium from the strike price:

$$\text{strike price} - \text{premium} = 55 - 6 = 49$$

For this investor, the break-even point is 49. The investor paid $6 for the option, so the option has to go $6 in-the-money in order for this investor to recoup the amount that they paid. As with call options, the break-even point is always the same for the buyer and the seller.

Selling put options

The following steps show you how to calculate the maximum gain and loss for the seller of a put option. I also demonstrate calculations for the break-even point. Here's the ticket order for the example:

Sell 1 TUV Sep 30 put at 8

1. **Determine the maximum gain.**

   The seller makes money only if the holder of the option fails to exercise it. This investor sold the option for $800 (8 × 100 shares per option); you put that number in the Money In side of the options chart. The maximum gain (the most this investor can make) is $800.

Money Out	Money In
	$800

2. **Find the maximum loss.**

   To calculate the maximum loss, you have to exercise the option at the strike price. The strike price is 30, so you place $3,000 (30 strike price × 100 shares per option) on the opposite side of the options chart. (Remember *puts switch:* The premium and strike price go on opposite sides of the options chart.)

Money Out	Money In
$3,000	$800

   You've already determined the maximum gain; now look at the Money Out portion of the options chart and compare it to the Money In. The maximum potential loss for this investor is the $2,200 difference between the Money Out and the Money In.

You calculate the break-even point for buying or selling puts the same way: You use *put down* (the strike price minus the premium) to figure out the break-even point:

$$\text{strike price} - \text{premium} = 30 - 8 = 22$$

For this investor, the break-even point is 22. Because this investor received $8 for the option, the option has to go $8 in-the-money for this investor to lose the amount they received for selling the option. Put options go in-the-money when the price of the stock goes below the strike price (put down).

Trading options: Opening and closing transactions

Although some investors hold onto their options long enough to actually exercise them, more often, investors trade options the way that they trade other investments. On the SIE exam, not only do you need to know the difference between opening and closing transactions, but you also have to be able to calculate the profit or loss for an investor trading options. This process is actually pretty easy when you break it down.

Putting things back where you found them: Doing opposite transactions

When distinguishing between opening and closing transactions, your key is to know whether this transaction is the first time or the second time the investor is buying or selling an option: The first time is an *opening*, and the second time is a *closing.* Regardless of whether it is an opening or closing transaction, it must be placed on the order ticket.

Here are your opening transactions:

- **Opening purchase:** An opening purchase occurs when an investor first buys a call or a put.
- **Opening sale:** An opening sale is when an investor first sells a call or a put.

If an investor already has an option position, the investor has to close that position by doing the opposite — through a closing transaction. If the investor originally purchased the option, they have to sell to close it. By contrast, if they originally sold the option, they have to purchase to close. Here are the two types of closing transactions:

- **Closing purchase:** A closing purchase occurs when an investor buys themselves out of a previous option position that they sold. For example, if an investor sold an XYZ Oct 40 call (opening sale), they would have to buy an XYZ Oct 40 call to close out the position. The second transaction is a closing purchase.
- **Closing sale:** A closing sale occurs when an investor sells themselves out of a previous option position that they purchased. For example, if an investor bought an ABC Sep 60 put (opening purchase), they would have to sell an ABC Sep 60 put to close out the position. The second transaction is a closing sale.


REMEMBER

When determining opening or closing transactions, whether the transactions are both calls or both puts doesn't matter.

The following question tests your knowledge of opening and closing transactions.


EXAMPLE

Mr. Kollen previously bought 1 XYZ Oct 65 call at 8 when the market price of XYZ was 64. XYZ is currently trading at 69, and Kollen decides that now would be a good time to sell the option that they previously purchased. The second option order ticket would be marked

(A) opening sale

(B) opening purchase

(C) closing sale

(D) closing purchase

The right answer is (C). This is the second time that Mr. Kollen does something with the option that he owns; therefore, the move has to be a closing transaction, and you can immediately eliminate (A) and (B). Mr. Kollen has to sell himself out of the position because he owns the option. The second order ticket would have to be marked *closing sale.*

Tricks of the options trade: Calculating gains and losses

In addition to knowing how to mark the order ticket, you have to be able to figure out an investor's gain or loss when trading options. This task isn't difficult after you master the options chart. The key thing to remember is that when an investor closes, they do the opposite of what they did before.

The following question tests your mastery of options trades.


EXAMPLE

Mrs. Wegner purchased 100 shares of DPY stock at $50 per share. Two weeks later, Mrs. Wegner sold 1 DPY Oct 55 call at 6. Mrs. Wegner held that position for three months before selling the DPY stock at $52 per share and closing the DPY Oct 55 call at 4. What is Mrs. Wegner's gain or loss on the transactions?

(A) $400 gain

(B) $400 loss

(C) $600 gain

(D) No gain or loss

The correct answer is (A). This question introduces stock trades as well as options transactions, but that's no problem. The options chart works for questions involving actual stocks and options or just options.

When you approach the transactions one at a time, the problem-solving process is actually pretty straightforward. Mrs. Wegner purchased 100 shares of DPY stock at $50 per share for a total of $5,000; therefore, you enter $5,000 in the Money Out side of the options chart. Next, she sold the DPY 55 call for a premium of 6, so you need to enter $600 (6 × 100 shares per option) on the Money In side of the chart because they received money for selling that option.

Three months later, Mrs. Wegner sold the stock for $5,200 ($52 per share × 100 shares) and received money for selling the stock. Place the $5,200 in the Money In side of the options chart. When closing the option, the customer has to do the opposite of what they did before. Originally, Mrs. Wegner sold the option, so to close, she has to buy the option (make a closing purchase). She purchased the option for $400 (4 × 100 shares per option), so enter $400 in the Money Out side of the options chart. All that's left for you to do is total up the two sides. Mrs. Wegner has $5,800 in and $5,400 out for a gain of $400.

Money Out	Money In
$5,000	$600
$400	$5,200
$5,400	$5,800

Got it covered: Stock/option contracts

When an investor purchases or sells option contracts on securities they actually own, that investor is choosing an excellent way to protect (hedge) against loss or to bring additional funds into their account, which would only be a partial hedge. The most common form is when an investor sells *covered call options*.

If an investor is selling a call option against a security that they own, the investor is considered to be *covered.* They're covered because if the option is exercised, they have the stock to deliver.

Take the following position as an example:

Buy 100 shares of QRS at $47 per share

Sell 1 QRS Dec 55 call at 4

1. **Find this investor's maximum potential loss.**

   Place the purchases and sales in the options chart. This investor purchased 100 shares of QRS stock at $47 per share for a total of $4,700. That's money spent, so enter $4,700 in the Money Out side of the options chart. Next, this investor sold 1 QRS Dec 55 call for a total premium of $400 (4 × 100 shares per option) and received money for selling that option, so you enter $400 in the Money In section of the options chart.

Money Out	Money In
$4,700	$400

This investor has more Money Out than Money In, so the investor's maximum potential loss is $4,300 ($4,700 minus $400).

2. **Determine the investor's maximum potential gain.**

   Placing the two transactions (in this case the stock purchase and the option sale) in the options chart helps you calculate the maximum gain as well as the maximum loss. To find the maximum gain, you need to exercise the option. You always exercise at the strike price, which in this case is 55. Take the $5,500 (55 × 100 shares per option) and place it under its premium. (Remember *calls same:* The exercised strike price and the premium go on the same side of the chart.) Total the two sides and you find that the Money In is $1,200 more than the Money Out, so that's the investor's maximum potential gain.

Money Out	Money In
$4,700	$400
	$5,500
$4,700	$5,900

When the investor is covered, finding the break-even point is nice and easy for stock and options. Although you can use the options chart, you really don't need to in this example case. First, look at how much the investor paid for the stock; then look at how much more they paid or received for the option. Find the difference, and you have your break-even point:

$47 stock price – $4 option premium = $43 break-even point

Because this investor paid $47 per share for the stock and received back $4 per share for selling the option, this investor would need to receive another $43 per share to break even.

REMEMBER

Here's how to find the break-even point for stock and options:

- **If the investor purchased twice** (bought the stock and bought a *protective put* option), add the stock price and the premium.
- **If the investor sold twice** (sold short the stock and sold an option), add the stock price and the premium.
- **If the investor had one buy and one sell** (for example, bought the stock and sold the option or sold short the stock and bought the option), subtract the premium from the stock price.

Index options

Besides buying or selling options on an individual stock, you can also buy or sell index options. Index options allow investors to speculate on (or hedge against) the price movement of market or

segments of the market. Like indexes themselves, index options can be broad-based or narrow-based. The main broad-based index options are the S&P 500 Index Options (SPX), the S&P 500 Volatility Market Index (VIX), and the S&P 100 Index Options (OEX). Narrow-based index options include options on the energy sector (IXE), financial sector (IXM), health care sector (IXV), technology sector (IXU), and so on.

Note: The Chicago Board Options Exchange (CBOE) VIX is a measure of how volatile investors believe that the S&P 500 index will be over the next 30 days. Typically, the higher the expectation of volatility, the higher the VIX premiums.

Premiums of index options

Like standard stock options, the pricing unit for index options is 100. This means that, like standard stock options, you multiply the premium by 100 to get the actual cost.

Exercises in cash

Unlike regular stock options in which, when the option is exercised, the underlying security must be delivered, index options are settled in *cash.* This makes sense because it would be very difficult for investors to buy and deliver all the securities covered by an index. If the holder of an index call option exercises their option, they will receive the in-the-money amount multiplied by 100 based on the closing price at the *end of the trading day,* not the current value at the time of exercise.

Trading hours, settlement, and expiration dates

Narrow-based index options trade until 4:00 p.m. Eastern Time, and broad-based index options trade until 4:15 p.m. Eastern Time. Like equity options, the settlement date for index options is the next business day.


REMEMBER

Index options are either broad-based or narrow-based. So, people may buy or sell index options based on how they believe the market will perform overall (broad-based) or just how a segment of the market will perform (narrow-based). In this case, the same strategy of buying calls and selling puts if you're bullish and buying puts and selling calls if you're bearish still applies. However, investors can also use index options to hedge (protect) a portfolio against a market decline. If an investor has a diverse portfolio of securities, they may decide to purchase an OEX or SPX put to protect themselves in the event that the market declines. Also, an investor who has a large portfolio of health care sector stocks may purchase IXV put options to protect themselves in the event that health care stocks are falling out of favor. There are even index options that only last a week *(weeklys)* that allow investors a way to trade index options based on economic news or earnings reports that may have a sudden impact on the market or a segment of the market.


TIP

You'll find that buyers and sellers of index options can incorporate most of the same strategies as equity option buyers and sellers. These strategies include covered writing, hedging, protective puts, straddles and combinations, and uncovered call or put writing.

Gaining Additional Option Insight

To help you get a deeper understanding of options, you need to know a few additional things that you will most certainly see on the real-deal SIE exam. Some of these items include who issues the options, what an ROP is, what a risk disclosure document is, and so on.

Clearing through the OCC

The Options Clearing Corporation (OCC) is the issuer and guarantor of all listed options. The OCC decides which options will trade as well as their strike prices. In addition, when an investor decides to exercise their option, it's the OCC that randomly decides which firm on the other end will be responsible for fulfilling the terms of the option.


REMEMBER

The OCC does not determine the premium for options; the premium is determined by investors based on supply and demand, the option's intrinsic value (how much it's in-the-money — or away from the money based on the exercise price and the price of the underlying security), and the amount of time until the option expires.

That's ODD: Options risk disclosure document

Because options have a risk that is greater than almost any other investment, all investors must receive an options risk disclosure document (Options Disclosure Document or ODD) and a copy of amendments (if any) prior to their first options transaction (at the time of or before the account is approved). This ODD explains to investors option terminology and strategies as well as the potential rewards and risks involved in investing in options, such as the chance of losing all money invested or, if selling call options, facing an unlimited maximum loss potential. In addition to the risks, the ODD must also explain tax rules related to options, transaction costs, margin requirements, a special statement for uncovered option writers, and so on.

Getting the go-ahead: Registered options principal

Because of the extra risk of investing in options, all new accounts and option order tickets must be approved and signed by a registered options principal (ROP) — a manager with a Series 4 license, in other words. The registered options principal determines the amount of risk that each investor can take. Certainly, sophisticated investors with a lot of money are able to handle more risk than new option investors with a limited supply of funds.

Options account agreement

Within 15 days after approval of the account by an ROP, the customer must sign and return an options account agreement (OAA, sometimes just called an options agreement). Basically, the OAA just states that the customer has read the ODD, understands the risk associated with trading options, and will abide by the rules and regulations regarding options trading. Should anything change (such as the customers, investment objectives, financial situation, and so on), the customer agrees to notify the firm. If the OAA is not received within 15 days after approval of the account, the customer cannot open any new options positions.

Order ticket

You can find out more about what is required on an order ticket in Chapter 16. However, a few things are required on an order ticket that are unique to options. Besides the option that is being bought or sold, you have to write down whether the customer is establishing a long position (if they're buying) or a short position (if they're selling). In addition, for option sellers, you need to put down whether the seller is covered or uncovered (naked). The seller of a call option is considered covered if they own the underlying security or own an option on the same security with the same or longer expiration that will be in-the-money first. And, of course, an uncovered (naked)

position is when the seller owns neither the underlying stock nor an option on the same security that will be in-the-money first with an equal or longer expiration date.

Last trade, last exercise, and expiration of an option

Unlike stock certificates, options do expire after a certain period of time. In addition, investors are limited as to when they can trade and exercise an option. Here's the timeline to keep in mind:

- **Last trade:** The last time an investor can trade an option is 4:00 p.m. Eastern Time on the business day of expiration.
- **Last exercise:** The last time an investor can exercise an option is 5:30 p.m. Eastern Time on the business day of expiration. If an option is in-the-money by at least 1 point at expiration, it will be automatically exercised. A vast majority of options (all equity [single-stock] and exchange-traded fund options) can be exercised any time up 'til expiration — this is known as *American style*. However, there are also *European-style* options that can be exercised only on the expiration date. European-style options include capped index options and some foreign currency options. Even though a European-style option can be exercised only at expiration, it can still be traded at any time.
- **Option expiration:** Options expire at 11:59 p.m. Eastern Time on the third Friday of the expiration month.

Exercise and assignment

When taking the SIE exam, you are expected to have a basic understanding of how options are exercised and assigned. Options are cleared through the OCC. Here's how an option is *exercised:*

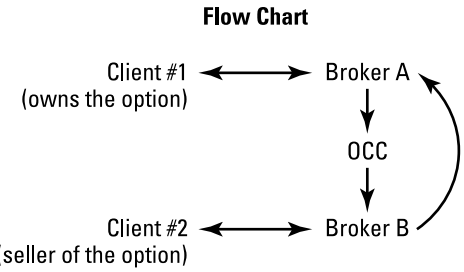
> When a client wants to exercise an option they own, they contact their broker–dealer. The broker–dealer contacts the OCC. The trade settles in two business days after the OCC is notified because when the investor is exercising an option, they are actually trading stock (the right to buy or sell stock). Stock trades settle in two business days, so exercises of options settle in two business days. However, trades of options settle in *one* business day.

The steps involved look like this:

1. **Client #1 tells their broker–dealer (Broker A) to exercise the option.**
2. **Broker A notifies the Options Clearing Corporation.**
3. **The Options Clearing Corporation chooses the *contra broker* (the broker–dealer on the other side of the transaction — Broker B) randomly.**
4. **Broker B *assigns* (chooses the client — Client #2) either randomly, first-in-first-out (FIFO), or by any other method that is fair and reasonable.**

   However, Broker B cannot choose the assignment based on size (the one with the most options, the one with the least options, and so on).
5. **Client #2 sends the proceeds (stock or cash) to Broker B.**
6. **Broker B sends the proceeds directly to Broker A (the OCC doesn't handle stock or cash).**

So, if you were to look at a flow chart, it would look something like this:




REMEMBER

Although most exercises of options are settled by the delivery of the underlying security, there are some that are settled by the delivery of *cash*. Specifically, *indexoptions* (options on an index of securities) and *foreign currency options* are always settled in cash. This just makes sense because investors can't be expected to deliver an entire index for index options nor be expected to deliver the underlying foreign currency for foreign currency options.

Additional definitions

For some reason, the SIE exam writers decided you need to know some additional option-specific definitions. I cover several of them earlier in this chapter, but there are several more that you need to be aware of. I will try to make this as painless as possible.

- **Aggregate exercise price:** The exercise (strike) price of an option multiplied by the number of units (usually shares) of the underlying security covered by the option contract (usually 100 shares).
- **Class of options:** All option contracts of the same type (puts or calls) covering the same underlying security or index.
- **Clearing member:** A FINRA member that has been admitted to membership in the OCC (Options Clearing Corporation).
- **Closing sale transaction:** An option transaction in which the seller wants to reduce or eliminate a long position. So, for argument's sake, say an investor is long (owns) 1 ABC Oct 40 call. To close that position, the investor would short (write or sell) the 1 ABC Oct 40 call.
- **Conventional index option:** An option that overlies a basket (nine or more equity securities) or index of securities providing that no one security comprises more than 30 percent of the basket or index.
- **Conventional option:** Any option contract not issued or subject to issuance by the OCC or an OCC-cleared OTC option.
- **Delta neutral:** An equity options position that has been fully hedged. For example, owning 100 shares of ABC stock and owning an at-the-money put on ABC stock. Basically, offsetting long and short positions.
- **Net delta:** The number of shares that must be maintained (either long or short) to offset the risk the investor is facing by having an equity option position.
- **Opening writing (opening sale) transaction:** The initial sale of an option in which the seller receives the premium paid.
- **Outstanding:** An option contract that has been neither closed (closing sale) nor exercised and has not reached the expiration date.

- **Series of options:** All option contracts that are of the same class, same expiration date, and same exercise price and that cover the same number of units of the underlying security or index.
- **Type of option:** Either a call or a put.

Some additional option rules

Yes, I know . . . even more? Don't blame me; I didn't design the test. Anyway, as with the preceding section, I think a quick perusal of the following items will give you enough of a general understanding of some of the additional rules that you should be able to pick them out of any multiple-choice questions posed on the exam.

- **Position limits:** A number placed on the amount of option contracts that a person can hold or write on the same side of the market (bullish or bearish) on the same security. This will be covered more in depth if you are taking the Series 7.
- **Exercise limits:** A number placed on the amount of option contracts that a person can exercise on the same side of the market (bullish or bearish) within five consecutive business days. This will be covered in more detail if you are taking the Series 7 exam.
- **Limit on uncovered short positions:** FINRA may decide to limit the amount of uncovered short positions on option contracts of a given class if deemed necessary for the protection of investors.
- **Restrictions on option transactions and exercises:** As with the limit on uncovered short positions, FINRA may also place restrictions on option transactions or the exercise of option contracts in one or more series of options of any class when deemed necessary to help maintain a fair and orderly market.
- **Open order on the "ex-date" (ex-dividend date):** Since the underlying stock price will be lowered due to a dividend, the OCC will adjust option contracts accordingly unless otherwise instructed by the customer.
- **Confirmations:** Members are responsible for providing a written confirmation of each option transaction for each customer's account. The confirmation must include the type of option (call or put); the underlying security or index; the expiration month; the exercise (strike) price; the number of option contracts; the premium, trade, and settlement dates; whether it was a purchase or sale (long or short); opening or closing transaction; whether it was done on a principal or agency basis; the amount of commission; and so on. (There's more on confirmations in Chapter 16 — yippee!)
- **Statements of account (account statements):** All clients must receive account statements at least monthly if there has been any trading in the account for the previous month and at least quarterly (once every three months) when there has been no trading in the previous month. The account statements must show the security and money positions, entries, interest charges, and any other charges assessed against the account. (Account statements are covered in more detail in Chapter 16.)
- **Opening of accounts:** In order to open an options account for a client, the client must receive an ODD, and you must exercise due diligence by getting the customer's investment objectives, employment status, estimated annual income, estimated net worth, estimated liquid net worth, marital status, number of dependents, age, investment experience and knowledge, and

so on. In addition, the account and all transactions must be approved by a registered options principal (ROP), branch office manager, or limited principal-general securities sales supervisor. All options accounts must be approved or disapproved within ten business days. Please note that all options accounts may not be approved for all transactions — depending on the client, they may be approved for buying covered writing, uncovered writing, spreading, discretionary transactions, and so on.

- **Options account agreement (OAA):** Within 15 days of the approval of the account, a member must obtain from the customer a written account agreement, which states that the customer understands that they are aware of and agrees to be bound by FINRA rules regarding options trading.
- **Uncovered short option contracts:** Since uncovered short option contracts are the riskiest of all option contracts, member firms must create standard rules for evaluating the suitability of customers who plan on writing uncovered options.
- **Maintenance of records:** Each member must keep a current log, index, or other file for options-related complaints. Each complaint should be easily identified and easy to retrieve if necessary. Each complaint file (hopefully there aren't many) must contain the identification of the complaint, the date the complaint was received, the name of the registered rep handling the account, a description of the complaint (such as a commission that they believe is too high), action taken (if any), and so on.
- **Discretionary account:** As with any discretionary account in which the client gives you the right to trade their account without pre-approval, it must be approved by a principal (manager). Options discretionary accounts must be approved in writing by a registered options principal (ROP) or limited principal-general securities sales supervisor, and written approval must be received from the client. In addition, discretionary accounts must be reviewed frequently by an ROP.
- **Suitability:** You may not recommend any option transaction(s) to a customer unless you believe that the transaction is suitable for the customer. Remember that you should already know the customer's investment objectives, financial information, and so on. In other words, you should not be recommending a risky option transaction for someone you deem incapable of handling the risk.
- **Supervision of accounts:** Members conducting an options business must have a written supervisory system in place to adequately address the public customer's option business. In addition, each branch office must have either a registered options principal or a limited principal-general securities sales supervisor in order to conduct options business.
- **Fingerprinting:** Individuals (directors, officers, employees, temporary personnel, consultants, vendors, independent contractors, service providers, and so on) who would have access to the CBOE facilities must be fingerprinted for identification and processing.

Testing Your Knowledge

As I said at the beginning of the chapter, this is really just an introduction to options, so the more-complex strategies are covered in subsequent exams. Take your time and read carefully. I give you a good mix of questions in this chapter quiz without too much math needed to answer the questions. Good luck.

Practice questions

1. Which of the following are bearish options strategies?

   I. Buying calls
   II. Buying puts
   III. Selling calls
   IV. Selling puts
   (A) I and II
   (B) I and III
   (C) II and III
   (D) II and IV

2. A customer owns call options on ABC common stock. ABC announces a cash dividend. What happens on the ex-dividend date?

   (A) The strike price is reduced to reflect the dividend.
   (B) The strike price remains the same.
   (C) The strike price is increased to reflect the dividend.
   (D) The strike price remains the same unless the customer instructs the OCC to change the strike price.

3. What are possible outcomes for the writer of a covered call option?

   (A) Unlimited profit and unlimited loss
   (B) Unlimited profit and limited loss
   (C) Limited profit and unlimited loss
   (D) Limited profit and limited loss

4. Declan is opening a new options account at a broker–dealer. Declan must return the signed options account agreement

   (A) before the account is approved
   (B) within 15 days after approval of the account
   (C) any time before the first transaction
   (D) sometime before receiving the risk disclosure document

5. An investor is long 1 GHI Oct 30 call. If GHI has a current market value of 33, which of the following is TRUE?

   (A) The option is out-of-the-money.
   (B) The option is at-the-money.
   (C) The option is in-the-money.
   (D) The call has a negative intrinsic value.

6. An investor reads in the newspaper that JKL Dec 60 puts are trading for 6 when JKL is at 64. What is the time value of these options?

   (A) 0
   (B) 2
   (C) 4
   (D) 6

7. Which of the following is TRUE regarding option contracts?

   I. The OCC sets the contract size.
   II. The OCC sets the strike prices.
   III. The OCC sets the premiums.
   IV. The OCC sets the expiration dates.

   (A) I and III
   (B) I, II, and IV
   (C) II and III
   (D) I, II, III, and IV

8. Melissa previously wrote 10 MKR Aug 45 puts for 6 each when the market price of MKR was 46. MKR is currently trading at 41 and the options are one week away from expiration. Melissa would like to buy her way out of that position. If she does, how would the second option order ticket be marked?

   (A) Opening sale
   (B) Opening purchase
   (C) Closing sale
   (D) Closing purchase

9. Who is the issuer and guarantor of all listed options?

   (A) OAA
   (B) OCC
   (C) ODD
   (D) FINRA

10. When is the last time an investor can exercise an option contract?

    (A) 4 p.m. EST on the third Friday of the expiration month
    (B) 5:30 p.m. EST on the third Friday of the expiration month
    (C) 11:59 p.m. EST on the third Friday of the expiration month
    (D) 11:59 p.m. CST on the third Friday of the expiration month

11. What is the break-even point for an investor who writes a Sep 40 call for 3?

    (A) 37
    (B) 40
    (C) 43
    (D) 34

12. What is the maximum potential loss for an investor who shorted 1 XYZ Oct 40 put for 6?

    (A) 3,400
    (B) 4,000
    (C) 4,600
    (D) Unlimited

13. What is the break-even point for an investor who is long 1 ABC Jan 60 put, which was purchased for 4?

(A) 56
(B) 60
(C) 64
(D) 66

14. Which TWO of the following options are in-the-money if TUV is trading at 43?

I. TUV 40 calls
II. TUV 40 puts
III. TUV 50 calls
IV. TUV 50 puts
(A) I and III
(B) I and IV
(C) II and III
(D) II and IV

15. Before opening an options account, a customer must receive an

(A) OAA
(B) OCC
(C) ODD
(D) All of the above

16. Which TWO of the following options are TRUE of an investor who writes a call option?

I. The maximum potential gain is the premium.
II. The maximum potential loss is the premium.
III. The break-even point is the premium added to the strike price.
IV. The break-even point is the premium subtracted from the strike price.
(A) I and III
(B) I and IV
(C) II and III
(D) II and IV

17. If an S&P 500 index call option is in-the-money at expiration, settlement is made by delivery of

(A) cash
(B) a percentage of all of the S&P 500 index stocks
(C) an exchange traded fund (ETF) that tracks the S&P 500
(D) longer-term S&P 500 index call options

18. An investor buys 1 TUV Oct 45 put for a premium of $4 and simultaneously buys 100 shares of TUV stock for $45 per share. At expiration, the stock would have to be selling at what price per share for the investor to be able to break even?

(A) $4
(B) $41
(C) $45
(D) $49

Answers and explanations

1. **C.** If you are bearish on a particular security, you want the price of it to decrease. If you are buying a call option without any other underlying positions, you want the price of the underlying security to increase. Therefore, if you purchase a put, you want the price of the underlying security to decrease. You have to remember that the buyer and seller want opposite things to happen. So, if the buyer of a call wants the price of the underlying security to increase, the seller wants it to decrease. Stating that, buyers of puts and sellers of calls with no other positions are bearish.

2. **A.** For investors with options positions, the strike (exercise) price would be lowered as a result of a dividend on the underlying security on the ex-dividend date.

3. **D.** When writing (selling) a covered call option, you are selling a call option on a security that you already own. The purpose of this is to provide income on the security that you own by receiving the premium for the call option sold. However, this comes at a cost. If the price of the security owned increases to the point where it will be profitable for the purchaser of the option to exercise that option, they will be buying the underlying security from you at the exercise price. This limits your upside potential. In addition, if the option is exercised, the loss is limited because you don't have to purchase the security in the market; you already own the security, which would have to be delivered.

4. **B.** The options account agreement (OAA or options agreement) must be signed and returned within 15 days after approval of the account. The customer would first receive an options risk disclosure document (ODD or options disclosure document), and then the account would be approved by an options principal. Once approved, the customer has 15 days to sign and return the options account agreement.

5. **C.** Call options go in-the-money when the price of the underlying security trades above the strike (exercise) price. In this case, the underlying stock price is at 33 and the strike price of the option is 30, so it's 3 points in-the-money. In case you were wondering, there is no such thing as negative intrinsic value, which is Choice (D).

6. **D.** The premium of an option is made up of intrinsic value (how much the option is in-the-money) and time value (the longer the time until expiration, the higher the time value). To determine the time value, use the following equation:

   $$P \text{ (premium)} = I \text{ (intrinsic value)} + T \text{ (time value)}$$
   $$6 = 0 + T$$
   $$T = 6$$

   Since put options go in-the-money when the price of the underlying security goes below the strike price, this option has no intrinsic value because the price of the stock is above the strike price. This means that the premium is made up of time value only.

7. **B.** The OCC (Options Clearing Corporation) sets the contract sizes, the strike prices, and the expiration dates for all options. However, the premium is based off of the intrinsic value (how much the option is in-the-money) and time value (the amount of time until the option expires).

8. **D.** When Melissa originally sold (wrote) the options, it was an initial or opening transaction. Since Melissa sold those options, it's an opening sale. To get themself out of that

position, Melissa would need to close the options. So, since they have to purchase the options, it is a closing purchase.

9. **B.** The OCC (Options Clearing Corporation) is the issuer and guarantor of all listed options. The OCC decides which securities will have options, their strike prices, and their expiration dates. In addition, the OCC guarantees that option holders will be able to exercise their options.

10. **B.** The last trade of an option is 4:00 p.m. EST on the third Friday of the expiration month. The last exercise is 5:30 p.m. EST on the third Friday of the expiration month. And, options expire 11:59 p.m. EST on the third Friday of the expiration month.

11. **C.** When buying or selling a call option with no other positions, you need to add the premium to the strike (exercise) price to get the break-even point. In this case, it doesn't matter whether this investor was purchasing or selling the option because both break even at the same price.

    $40 + 3 = 43$

12. **A.** The easiest way to determine the maximum potential loss for this question is to use an options chart.

Money Out	Money In
$4,000	$600

    Since the investor shorted (sold) the option for $600 ($6 \times 100$ shares per option), they received $600, so you have to put that on the "Money In" side of the chart. That tells you that their maximum potential gain is $600. To determine the maximum potential loss, you have to exercise the option. So, you exercise at the strike (exercise) price of 40. This means that you have to put $4,000 (40 strike price $\times$ 100 shares per option) on the opposite side of its premium because puts switch (the exercised premium goes on the opposite side of the chart from its premium). Now you see that there is $3,400 more Out than in ($4,000 – $600), so that's the maximum potential loss.

13. **A.** When buying or selling a put option with no other positions, you need to subtract the premium from the strike (exercise) price to get the break-even point. In this case, it doesn't matter whether this investor was purchasing or selling the option, because both break even at the same price.

    $60 - 4 = 56$

14. **B.** Call options go in-the-money when the price of the underlying stock goes above the strike price, and put options go in-the-money when the price of the underlying stock goes below the strike price. Therefore, answers "I" and "IV" are both in-the-money.

15. **C.** Before a customer opens an options account, they must receive an ODD (options risk disclosure document). This is the document that explains all of the risks of investing in options so that customers will understand what they're getting into.

16. **A.** When writing (selling) an option with no other position, the maximum potential gain is the premium received. To determine the break-even point for a call option, *call up*, which means to add the premium to the strike price.

17. **A.** Index options are settled in cash by multiplying the in-the-money amount by 100 per option.

18. **D.** This investor purchased a protective put to limit their potential downside loss. You could set this up in an options chart but in this case, it's probably not necessary. This investor purchased the stock for $45 per share, and since options are for 100 shares, they purchased the option for $4 per share. This means that they spent $49 ($45 + $4) per share to purchase both positions. This means that their breakeven point is $49.