Reading 7: Discounted Cash Flow Applications

Question #1 of 71

A T-bill with a face value of \$100,000 and 140 days until maturity is selling for \$98,000. What is the money market yield?

- **A)** 2.04%.
- **B)** 5.41%.
- C) 5.25%.

Question #2 of 71 Question ID: 412868

On January 1, Jonathan Wood invests \$50,000. At the end of March, his investment is worth \$51,000. On April 1, Wood deposits \$10,000 into his account, and by the end of June, his account is worth \$60,000. Wood withdraws \$30,000 on July 1 and makes no additional deposits or withdrawals the rest of the year. By the end of the year, his account is worth \$33,000. The time-weighted return for the year is *closest to*:

- **A)** 7.0%.
- **B)** 10.4%.
- **C)** 5.5%.

Question #3 of 71 Question ID: 412904

An investor has just purchased a Treasury bill for \$99,400. If the security matures in 40 days and has a holding period yield of 0.604%, what is its money market yield?

- **A)** 5.436%.
- **B)** 5.650%.
- C) 5.512%.

Question #4 of 71Question ID: 412870

An investor buys a share of stock for \$200.00 at time t = 0. At time t = 1, the investor buys an additional share for \$225.00. At time t = 2 the investor sells both shares for \$235.00. During both years, the stock paid a per share dividend of \$5.00. What are the *approximate* time-weighted and money-weighted returns respectively?

- A) 10.8%; 9.4%.
- **B)** 7.7%; 7.7%.
- C) 9.0%; 15.0%.

Question #5 of 71 Question ID: 412874

An investor makes the following investments:

- She purchases a share of stock for \$50.00.
- After one year, she purchases an additional share for \$75.00.
- After one more year, she sells both shares for \$100.00 each.
- There are no transaction costs or taxes.

During year one, the stock paid a \$5.00 per share dividend. In year 2, the stock paid a \$7.50 per share dividend. The investor's required return is 35%. Her money-weighted return is *closest to:*

- **A)** 48.9%.
- **B)** -7.5%.
- **C)** 16.1%.

Question #6 of 71 Question ID: 412900

If the money market yield is 3.792% on a T-bill with 79 days to maturity, what is the holding period yield?

- **A)** 0.83%.
- **B)** 0.89%.
- **C)** 0.77%.

Question #7 of 71 Question ID: 412843

The financial manager at IBFM, a farm implement distributor, is contemplating the following three mutually exclusive projects. IBFM's required rate of return is 9.5%. Based on the information provided, which should the financial manager select and why?

Project	Investment at t = 0	Cash Flow at t = 1	IRR	NPV @ 9.5%
Α	\$10,000	\$11,300	13.00	\$320
В	\$25,000	\$29,000	16.00	\$1,484
С	\$35,000	\$40,250	15.00	\$1,758

- A) All of the projects, because they all earn more than 9.5%.
- B) Project A with the lowest initial investment.
- C) Project C with the highest net present value.

Question #8 of 71 Question ID: 412867

Which of the following is *most* accurate with respect to the relationship of the money-weighted return to the time-weighted return? If funds are contributed to a portfolio just prior to a period of favorable performance, the:

- A) time-weighted rate of return will tend to be elevated.
- B) money-weighted rate of return will tend to be depressed.
- C) money-weighted rate of return will tend to be elevated.

Question #9 of 71 Question ID: 412903

The effective annual yield (EAY) for a T-bill maturing in 150 days is 5.04%. What are the holding period yield (HPY) and money market yield (MMY) respectively?

- A) 2.80%; 5.41%.
- **B)** 5.25%; 2.04%.
- C) 2.04%; 4.90%.

Question #10 of 71Question ID: 412854

A stock is currently worth \$75. If the stock was purchased one year ago for \$60, and the stock paid a \$1.50 dividend over the course of the year, what is the holding period return?

- **A)** 24.0%.
- **B)** 27.5%.
- C) 22.0%.

Question #11 of 71Question ID: 412852

A bond was purchased exactly one year ago for \$910 and was sold today for \$1,020. During the year, the bond made two semi-annual coupon payments of \$30. What is the holding period return?

- **A)** 12.1%.
- **B)** 6.0%.
- C) 18.7%.

Question #12 of 71Question ID: 412871

Miranda Cromwell, CFA, buys £2,000 worth of Smith & Jones PLC shares at the beginning of each year for four years at prices of £100, £120, £150 and £130 respectively. At the end of the fourth year the price of Smith & Jones PLC is £140. The shares do not pay a dividend. Cromwell calculates her average cost per share as [(£100 + £120 + £130 + £130) / 4] = £125. Cromwell then

uses the geometric mean of annual holding period returns to conclude that her time-weighted annual rate of return is 8.8%. Has Cromwell correctly determined her average cost per share and time-weighted rate of return?

Average cost Time-weighted return

A) Incorrect Correct

B) Correct Incorrect

C) Correct Correct

Question #13 of 71Question ID: 412842

Financial managers should always select the project that provides the highest net present value (NPV) whenever NPV and IRR methods conflict, because maximizing:

- A) shareholder wealth is the goal of financial management.
- B) revenues is the goal of financial management.
- C) the shareholders' rate of return is the goal of financial management.

Question #14 of 71Question ID: 434186

An investor buys a \$1,000 par value, 10.375% coupon, annual-pay bond for \$1,033.44 and sells it one year later for \$1,014.06. What is the holding period yield?

- **A)** 8.22%.
- **B)** 8.14%.
- C) 8.16%.

Question #15 of 71Question ID: 412881

A Treasury bill (T-bill) with a face value of \$10,000 and 137 days until maturity is selling for 98.125% of face value. Which of the following is *closest* to the bank discount yield on the T-bill?

- **A)** 5.06%.
- **B)** 4.56%.
- C) 4.93%.

Question #16 of 71Question ID: 412872

Robert Mackenzie, CFA, buys 100 shares of GWN Breweries each year for four years at prices of C\$10, C\$12, C\$15 and C\$13 respectively. GWN pays a dividend of C\$1.00 at the end of each year. One year after his last purchase he sells all his GWN shares at C\$14. Mackenzie calculates his average cost per share as [(C\$10 + C\$12 + C\$15 + C\$13) / 4] = C\$12.50. Mackenzie then uses the internal rate of return technique to calculate that his money-weighted annual rate of return is 12.9%. Has Mackenzie correctly determined his average cost per share and money-weighted rate of return?

	Average cos	<u>t</u>	Money-weighted return
A)	Incorrect	Со	rrect
B)	Correct	Inc	correct
C)	Correct	Со	rrect

Question #17 of 71Question ID: 412886

A T-bill with a face value of \$100,000 and 140 days until maturity is selling for \$98,000. What is the bank discount yield?

- A) 5.14%.
- **B)** 5.41%.
- C) 4.18%.

Question #18 of 71Question ID: 412901

The holding period yield for a T-Bill maturing in 110 days is 1.90%. What are the equivalent annual yield (EAY) and the money market yield (MMY) respectively?

- A) 5.25%; 5.59%.
- **B)** 6.44%; 6.22%.
- **C)** 6.90%; 6.80%.

Question #19 of 71Question ID: 412891

A Treasury bill with a face value of \$1,000,000 and 45 days until maturity is selling for \$987,000. The Treasury bill's bank discount yield is *closest* to:

- **A)** 10.40%.
- **B)** 10.54%.
- **C)** 7.90%.

Question #20 of 71Question ID: 412849

Sarah Kelley, CFA, is analyzing two mutually exclusive investment projects. Kelley has calculated the net present value (NPV) and internal rate of return (IRR) for each project:

Project 1: NPV = \$230; IRR = 15% Project 2: NPV = \$4,000; IRR = 6%

Kelley should make which of the following recommendations concerning the two projects?

- A) Accept Project 1 only.
- B) Accept both projects.
- C) Accept Project 2 only.

Question #21 of 71Question ID: 412851

The internal rate of return (IRR) method and net present value (NPV) method of project selection will always provide the same accept or reject decision when:

- A) the projects are mutually exclusive.
- **B)** up-front project costs are under \$1.0 million.
- C) the projects are independent.

Question #22 of 71Question ID: 412865

Which of the following statements regarding the money-weighted and time-weighted rates of return is least accurate?

- A) The time-weighted rate of return is the standard in the investment management industry.
- **B)** The money-weighted rate of return removes the effects of the timing of additions and withdrawals to a portfolio.
- **C)** The time-weighted rate of return reflects the compound rate of growth of one unit of currency over a stated measurement period.

Question #23 of 71Question ID: 412838

An investment with a cost of \$5,000 is expected to have cash inflows of \$3,000 in year 1, and \$4,000 in year 2. The internal rate of return (IRR) for this investment is *closest* to:

- **A)** 30%.
- B) 25%.
- **C)** 15%.

Question #24 of 71Question ID: 412850

The financial manager at Kyser Jones is considering two mutually exclusive projects with the following projected cash flows:

Projected Cash Flows		
Year	Project M	Project Z
0	-\$60,000	-\$60,000
1	22,500	0
2	22,500	0
3	22,500	0
4	22,500	111,000

If Kyser Jones' required rate of return is 11%, which project would be chosen and why?

- A) Project Z, because it has the higher net present value.
- B) Both projects because their net present values are positive.
- C) Project M, because it has the higher internal rate of return.

Question #25 of 71Question ID: 412869

Assume an investor makes the following investments:

- Today, she purchases a share of stock in Redwood Alternatives for \$50.00.
- After one year, she purchases an additional share for \$75.00.
- After one more year, she sells both shares for \$100.00 each.

There are no transaction costs or taxes. The investor's required return is 35.0%.

During year one, the stock paid a \$5.00 per share dividend. In year two, the stock paid a \$7.50 per share dividend.

The time-weighted return is:

- **A)** 51.7%.
- **B)** 23.2%.
- **C)** 51.4%.

Question #26 of 71Question ID: 412864

An analyst managed a portfolio for many years and then liquidated it. Computing the internal rate of return of the inflows and outflows of a portfolio would give the:

- A) time-weighted return.
- B) net present value.

C) money-weighted return.

Question #27 of 71Question ID: 412860

An investor is considering investing in Tawari Company for one year. He expects to receive \$2 in dividends over the year and feels he can sell the stock for \$30 at the end of the year. To realize a return on the investment over the year of 14%, the price the investor would pay for the stock today is *closest* to:

- A) \$29.
- **B)** \$28.
- C) \$32.

Question #28 of 71Question ID: 412857

A bond that pays \$100 in interest each year was purchased at the beginning of the year for \$1,050 and sold at the end of the year for \$1,100. An investor's holding period return is:

- **A)** 10.5%.
- **B)** 10.0%.
- **C)** 14.3%.

Question #29 of 71Question ID: 412834

Calabash Crab House is considering an investment in mutually exclusive kitchen-upgrade projects with the following cash flows:

	Project A	Project B	
Initial Year	-\$10,000	-\$9,000	
Year 1	2,000	200	
Year 2	5,000	-2,000	
Year 3	8,000	11,000	
Year 4	8,000	15,000	

Assuming Calabash has a 12.5% cost of capital, which of the following investment decisions is most appropriate?

- A) Accept Project B because its net present value is higher than that of Project A.
- B) Accept both projects because they both have positive net present values.
- C) Accept Project A because its internal rate of return is higher than that of Project B.

Question #30 of 71Question ID: 412855

An investor sold a 30-year bond at a price of \$850 after he purchased it at \$800 a year ago. He received \$50 of interest at the time of the sale. The annualized holding period return is:		
A) 6.25%.B) 15.0%.		
Question #31 of 71	Question ID: 412859	
Banca Hakala purchases two front row concert tickets over the Internet for \$90 per seat. One announces that it is dissolving due to personality conflicts and the concert that Hakala has tick concert. Hakala sees a chance to raise some quick cash, so she puts the tickets up for sale or auction closes at \$250 per ticket. After paying a 10% commission to the site on the amount of shipping costs, Hakala's one-month holding period return is approximately:	ets for will be the "farewell" the same internet site. The	
A) 44%.		
B) 139%.		
C) 144%.		
Question #32 of 71	Question ID: 412879	
A Treasury bill has 40 days to maturity, a par value of \$10,000, and is currently selling for \$9,9 closest to:	00. Its effective annual yield is	
A) 1.00%.		
B) 9.60%.		
C) 9.00%.		
Question #33 of 71	Question ID: 412835	
The financial manager at Genesis Company is looking into the purchase of an apartment compash flows are expected to be \$65,000 for each of the next five years, then drop to \$50,000 for of return is 9% on projects of this nature. After nine years, Genesis Company expects to sell the \$300,000. What is the respective internal rate of return (IRR) and net present value (NPV) on the second content of the purchase of an apartment compash flows are expected to be \$65,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years, then drop to \$50,000 for each of the next five years.	r four years. Genesis' required rate ne property for after-tax proceeds of	
A) 6.66%; -\$64,170.		
B) 7.01%; -\$53,765.		
C) 13.99%; \$166,177.		

Question #34 of 71Question ID: 412839

In order to calculate the net present value (NPV) of a project, an analyst would least likely need to know the:

- A) opportunity cost of capital for the project.
- B) internal rate of return (IRR) of the project.
- C) timing of the expected cash flows from the project.

Question #35 of 71Question ID: 412856

When Annette Famigletti hears that a baseball-loving friend is coming to visit, she purchases two premium-seating tickets for \$45 per ticket for an evening game. As the date of the game approaches, Famigletti's friend telephones and says that his trip has been cancelled. Fortunately for Famigletti, the tickets she holds are in high demand as there is chance that the leading Major League Baseball hitter will break the home run record during the game. Seeing an opportunity to earn a high return, Famigletti puts the tickets up for sale on an internet site. The auction closes at \$150 per ticket. After paying a 10% commission to the site (on the amount of the sale) and paying \$8 total in shipping costs, Familgletti's holding period return is approximately:

- A) 202%.
- **B)** 191%.
- C) 182%.

Question #36 of 71Question ID: 412840

The capital budgeting director of Green Manufacturing is evaluating a laser imaging project with the following characteristics:

• Cost: \$150,000

• Expected life: 3 years

• After-tax cash flows: \$60,317 per year

• Salvage value: \$0

If Green Manufacturing's cost of capital is 11.5%, what is the project's internal rate of return (IRR)?

- **A)** 10.0%.
- **B)** 13.6%.
- **C)** \$3,875.

Question #37 of 71Question ID: 412875

An investor buys four shares of stock for \$50 per share. At the end of year one she sells two shares for \$50 per share. At the end of year two she sells the two remaining shares for \$80 each. The stock paid no dividend at the end of year one and a dividend of \$5.00 per share at the end of year two. What is the difference between the time-weighted rate of return and the money-weighted rate of return?

- A) 20.52%.
- **B)** 9.86%.

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C)	14	.48%

Question #38 of 71Question ID: 412866

The money-weighted return also is known as the:

- A) return on invested capital.
- B) measure of the compound rate of growth of \$1 over a stated measurement period.
- C) internal rate of return (IRR) of a portfolio.

Question #39 of 71Question ID: 412890

What is the effective annual yield for a Treasury bill priced at \$98,853 with a face value of \$100,000 and 90 days remaining until maturity?

- **A)** 4.64%.
- **B)** 1.16%.
- **C)** 4.79%.

Question #40 of 71Question ID: 710129

Fisher, Inc., is evaluating the benefits of investing in a new industrial printer. The printer will cost \$28,000 and increase after-tax cash flows by \$7,000 during each of the next four years and \$6,000 in each of the two years after that. The internal rate of return (IRR) of the printer project is *closest* to:

- **A)** 11.8%
- **B)** 12.0%
- C) 11.6%

Question #41 of 71Question ID: 412893

A Treasury bill, with 45 days until maturity, has an effective annual yield of 12.50%. The bill's holding period yield is *closest* to:

- **A)** 1.54%.
- **B)** 1.57%.
- **C)** 1.46%.

Question #42 of 71Question ID: 412899

A broker calls with a proposal to buy a Treasury bill (T-bill) with 186 days to maturity. He says the effective annual yield on the T-bill is 4.217%. What is the holding period yield if you hold the bill until maturity?

- A) 8.44%.
- **B)** 2.02%.
- C) 2.13%.

Question #43 of 71Question ID: 412847

Which of the following is NOT a problem with the internal rate of return (IRR)?

- A) Sometimes the IRR exceeds the cost of capital.
- B) A higher IRR does not necessarily indicate a more-profitable project.
- C) Non-normal cash flow patterns may result in multiple IRRs.

Question #44 of 71Question ID: 412845

Which of the following statements regarding making investment decisions using net present value (NPV) and internal rate of return (IRR) is *least* accurate?

- A) Projects with a positive NPVs increase shareholder wealth.
- **B)** If two projects are mutually exclusive, one should always choose the project with the highest IRR.
- **C)** If a firm undertakes a zero-NPV project, the firm will get larger, but shareholder wealth will not change.

Question #45 of 71Question ID: 412895

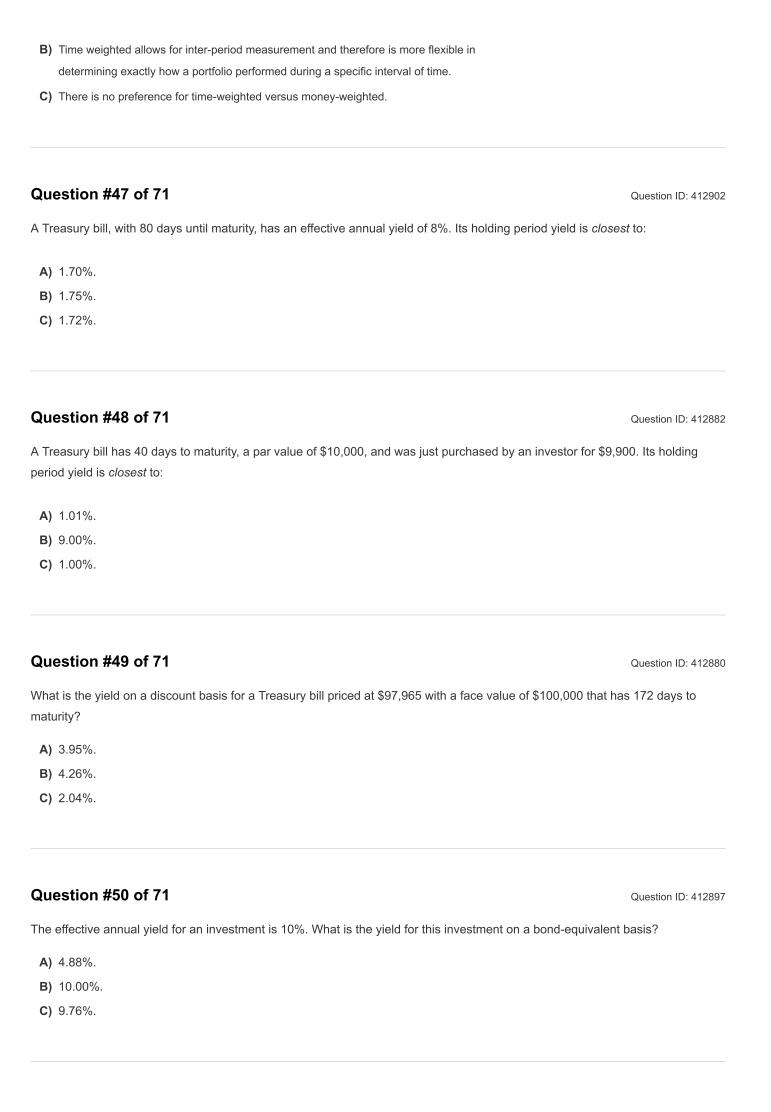
What is the effective annual yield of a T-bill that has a money market yield of 5.665% and 255 days to maturity?

- **A)** 5.92%.
- **B)** 5.79%.
- C) 4.01%.

Question #46 of 71Question ID: 412862

Why is the time-weighted rate of return the preferred method of performance measurement?

A) Time-weighted returns are not influenced by the timing of cash flows.



Question #51 of 71Question ID: 412863

Time-weighted returns are used by the investment management industry because they:

- A) take all cash inflows and outflows into account using the internal rate of return.
- B) result in higher returns versus the money-weighted return calculation.
- C) are not affected by the timing of cash flows.

Question #52 of 71Question ID: 412841

The financial manager at Johnson & Smith estimates that its required rate of return is 11%. Which of the following independent projects should Johnson & Smith accept?

- **A)** Project A requires an up-front expenditure of \$1,000,000 and generates an NPV of -\$4,600.
- **B)** Project C requires an up-front expenditure of \$600,000 and generates a positive internal rate of return of 12.0%.
- **C)** Project B requires an up-front expenditure of \$800,000 and generates a positive IRR of 10.5%.

Question #53 of 71Question ID: 412887

A T-bill with a face value of \$100,000 and 140 days until maturity is selling for \$98,000. What is its holding period yield?

- **A)** 5.14%.
- **B)** 2.04%.
- C) 5.25%.

Question #54 of 71Question ID: 412892

A 10% coupon bond was purchased for \$1,000. One year later the bond was sold for \$915 to yield 11%. The investor's holding period yield on this bond is *closest* to:

- **A)** 18.5%.
- **B)** 1.5%.
- C) 9.0%.

Question #55 of 71Question ID: 412877

An investor buys one share of stock for \$100. At the end of year one she buys three more shares at \$89 per share. At the end of
year two she sells all four shares for \$98 each. The stock paid a dividend of \$1.00 per share at the end of year one and year two.
What is the investor's time-weighted rate of return?

- **A)** 11.24%.
- **B)** 0.06%.
- **C)** 6.35%.

Question #56 of 71Question ID: 412853

If an investor bought a stock for \$32 and sold it one year later for \$37.50 after receiving \$2 in dividends, what was the holding period return on this investment?

- **A)** 23.44%.
- **B)** 17.19%.
- **C)** 6.25%.

Question #57 of 71Question ID: 412883

A Treasury bill (T-bill) with 38 days until maturity has a bank discount yield of 3.82%. Which of the following is *closest* to the money market yield on the T-bill?

- **A)** 3.87%.
- **B)** 3.84%.
- C) 3.81%.

Question #58 of 71Question ID: 487947

An investor started the year with a \$10,000 portfolio. He made a \$1,000 contribution at the end of the first quarter, a \$2,000 withdrawal at the end of the third quarter, and ended the year with a portfolio value of \$10,553. The quarterly holding period returns for the investor's portfolio are as follows.

Money-

The effective annual money-weighted and time-weighted returns are *closest to*:

	<u>weighted</u>	<u>Time-weighted</u>
A)	15.13%	3.84%
B)	3.59%	16.25%
C)	15.13%	16.25%

Question #59 of 71Question ID: 412837

The estimated annual after-tax cash flows of a proposed investment are shown below:

Year 1: \$10,000

Year 2: \$15,000

Year 3: \$18,000

After-tax cash flow from sale of investment at the end of year 3 is \$120,000

The initial cost of the investment is \$100,000, and the required rate of return is 12%. The net present value (NPV) of the project is *closest* to:

- **A)** \$63,000.
- **B)** \$19,113.
- **C)** -\$66,301.

Question #60 of 71Question ID: 412876

An investor buys one share of stock for \$100. At the end of year one she buys three more shares at \$89 per share. At the end of year two she sells all four shares for \$98 each. The stock paid a dividend of \$1.00 per share at the end of year one and year two. What is the investor's money-weighted rate of return?

- **A)** 0.06%.
- **B)** 5.29%.
- C) 6.35%.

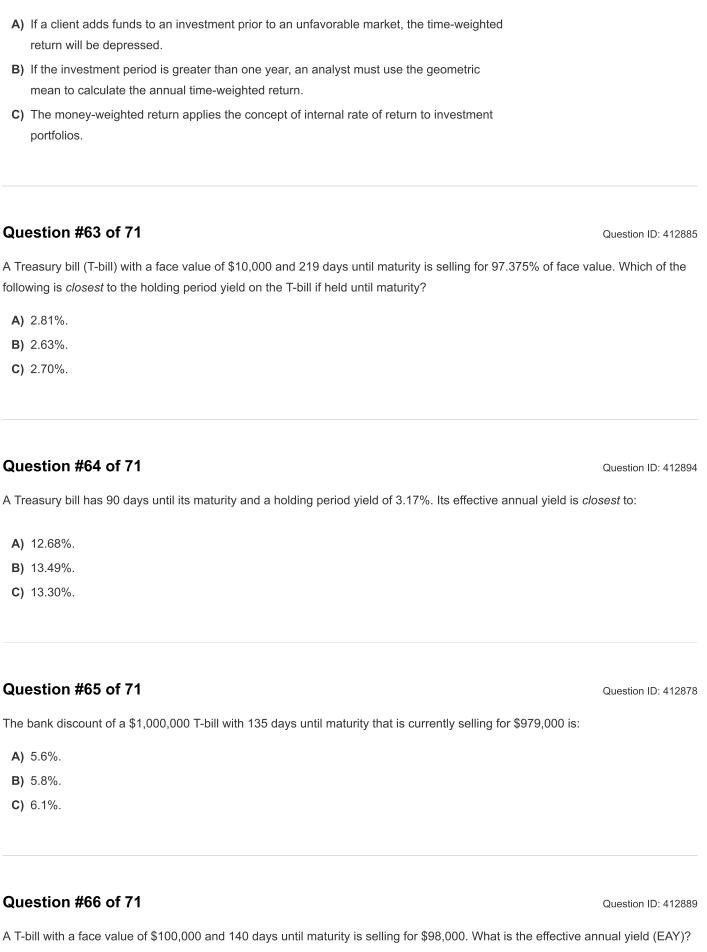
Question #61 of 71Question ID: 412898

If the holding period yield on a Treasury bill (T-bill) with 197 days until maturity is 1.07%, what is the effective annual yield?

- **A)** 1.07%.
- **B)** 0.58%.
- C) 1.99%.

Question #62 of 71Question ID: 412873

Which of the following statements about money-weighted and time-weighted returns is least accurate?



A) 5.41%.

B) 2.04%.

C) 5.14%.

Question #67 of 71Question ID: 412884

A Treasury bill (T-bill) with a face value of \$10,000 and 44 days until maturity has a holding period yield of 1.1247%. Which of the following is *closest* to the effective annual yield on the T-bill?

- A) 9.72%.
- B) 12.47%.
- C) 8.76%.

Question #68 of 71Question ID: 412896

The holding period yield of a T-bill that has a bank discount yield of 4.70% and a money market yield of 4.86% and matures in 240 days is closest to:

- **A)** 4.9%.
- **B)** 3.2%.
- C) 2.8%.

Question #69 of 71Question ID: 412844

Williams Warehousing currently has a warehouse lease that calls for five annual payments of \$120,000. The warehouse owner, who needs cash, is offering Williams a deal wherein Williams will pay \$200,000 this year and then pay only \$80,000 each of the remaining 4 years. (Assume that all lease payments are made at the beginning of the year.) Should Williams Warehousing accept the offer if its required rate of return is 9%, and why?

- A) No, there is an additional \$80,000 payment in this year.
- B) Yes, there is a savings of \$45,494 in present value terms.
- C) Yes, there is a savings of \$49,589 in present value terms.

Question #70 of 71Question ID: 412848

Which of the following is *least likely* a problem associated with the internal rate of return (IRR) method for making investment decisions?

- A) An investment project may have more than one internal rate of return.
- **B)** The IRR method determines the discount rate that sets the net present value of a project equal to zero.
- C) IRR and NPV criteria can give conflicting decisions for mutually exclusive projects.

Question #71 of 71Question ID: 412861

An investor expects a stock currently selling for \$20 per share to increase to \$25 by year-end. The dividend last year was \$1 but he expects this year's dividend to be \$1.25. What is the expected holding period return on this stock?

- **A)** 28.50%.
- **B)** 24.00%.
- **C)** 31.25%.