1. What is the payback period for the following set of cash flows?
2. An investment project provides cash inflows of $740 per year for 11 years.
3. What is the project payback period if the initial cost is 2,960?
4. What is the project payback period if the initial cost is 4,366?
5. What is the project payback period if the initial cost is 8,880?
6. An investment project has annual cash inflows of $4,200, $5,300, $6,100, and $7,400, and a discount rate of 14 percent. What is the discounted payback period for these cash flows if the initial cost is $7,000? **(Do not round your intermediate calculations.)**
7. An investment project costs $14,400 and has annual cash flows of $3,300 for six years.
8. What is the discounted payback period if the discount rate is zero percent?
9. What is the discounted payback period if the discount rate is 4 percent?
10. What is the discounted payback period if the discount rate is 19 percent?
11. A firm evaluates all of its projects by using the NPV decision rule.

|  |  |
| --- | --- |
| YEAR | CASH FLOW |
| 0 | -30,000 |
| 1 | 23,000 |
| 2 | 13,300 |
| 3 | 11,000 |

1. At a required return of 11 percent, what is the NPV for this project?
2. At a required return of 40 percent, what is the NPV for this project?
3. A project that provides annual cash flows of $3,000 for 9 years costs $14,000 today,
4. If the required return is 11 percent, what is the NPV for this project?
5. Determine the IRR for this project.
6. What is the IRR of the following set of cash flows?

|  |  |
| --- | --- |
| YEAR | CASH FLOW |
| 0 | -7,951 |
| 1 | 4,300 |
| 2 | 3,300 |
| 3 | 5,400 |

1. For the following set of cash flows,

|  |  |
| --- | --- |
| YEAR | CASH FLOW |
| 0 | -8,600 |
| 1 | 4,800 |
| 2 | 5,600 |
| 3 | 5,900 |

1. What is the NPV at a discount rate of 0 percent?
2. What is the NPV at a discount rate of 10 percent?
3. What is the NPV at a discount rate of 18 percent?
4. What is the NPV at a discount rate of 23 percent?
5. Mahjong, Inc., has identified the following two mutually exclusive projects:

|  |  |  |
| --- | --- | --- |
| YEAR | CASH FLOW(A) | CASH FLOW(B) |
| 0 | -36,700 | -36,700 |
| 1 | 19,040 | 6,580 |
| 2 | 14,540 | 13,080 |
| 3 | 12,040 | 19,580 |
| 4 | 9,040 | 23,580 |

1. What is the IRR for Project A?
2. What is the IRR for Project B?
3. If the required return is 15 percent, what is the NPV for Project A?
4. If the required return is 15 percent, what is the NPV for Project B?
5. At what discount rate would the company be indifferent between these two projects?

|  |  |
| --- | --- |
| YEAR | CASH FLOW(A) |
| 0 | -7,600 |
| 1 | 5,300 |
| 2 | 2,700 |
| 3 | 3,500 |

1. What is the profitability index for the cash flows if the relevant discount rate is 11 percent?
2. What is the profitability index for the cash flows if the relevant discount rate is 18 percent?
3. What is the profitability index for the cash flows if the relevant discount rate is 24 percent?
4. Consider the following two mutually exclusive projects:

|  |  |  |
| --- | --- | --- |
| YEAR | CASH FLOW(A) | CASH FLOW(B) |
| 0 | -218,744 | -14,887 |
| 1 | 29,300 | 4,036 |
| 2 | 51,000 | 8,737 |
| 3 | 51,000 | 13,211 |
| 4 | 424,000 | 8,514 |

Whichever project you choose, if any, you require a 6 percent return on your investment.

1. What is the payback period for Project A?
2. What is the payback period for Project B?
3. What is the discounted payback period for Project A?
4. What is the discounted payback period for Project B?
5. What is the NPV for Project A?
6. What is the NPV for Project B?
7. What is the IRR for Project A?
8. What is the IRR for Project B?
9. What is the profitability index for Project A?
10. What is the profitability index for Project B?
11. Slow Ride Corp. is evaluating a project with the following cash flows:

|  |  |
| --- | --- |
| YEAR | CASH FLOW |
| 0 | -29,800 |
| 1 | 12,000 |
| 2 | 14,700 |
| 3 | 16,600 |
| 4 | 13,700 |
| 5 | -10,200 |

The company uses a 9 percent interest rate on all of its projects. Calculate the MIRR of the project using all three methods.

1. MIRR using the discounting approach. **(Do not round your intermediate calculations.)**
2. MIRR using the reinvestment approach. **(Do not round your intermediate calculations.)**
3. MIRR using the combination approach. **(Do not round your intermediate calculations.)**
4. Slow Ride Corp. is evaluating a project with the following cash flows:

|  |  |
| --- | --- |
| YEAR | CASH FLOW |
| 0 | -13,200 |
| 1 | 6,100 |
| 2 | 6,700 |
| 3 | 6,200 |
| 4 | 5,100 |
| 5 | -4,500 |

The company uses an 11 percent discount rate and a 9 percent reinvestment rate on all of its projects. Calculate the MIRR of the project using all three methods using these interest rates.

1. MIRR using the discounting approach. **(Do not round your intermediate calculations.)**
2. MIRR using the reinvestment approach. **(Do not round your intermediate calculations.)**
3. MIRR using the combination approach. **(Do not round your intermediate calculations.)**
4. A project has the following cash flows:

|  |  |
| --- | --- |
| YEAR | CASH FLOW |
| 0 | -64,300 |
| 1 | -30,300 |
| 2 | -48,300 |

1. What is the IRR for this project?
2. What is the NPV of this project, if the required return is 10.5 percent?
3. NPV at 0 percent?
4. NPV at 21 percent?