**Topic 11 Knowledge Check**

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| Points: | 36 |

Started on Jul 02 at 00:25

Your Submission:

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1. Bookmark question for later

The total cost of a new machine, including the shipping and installation, is $250,000. Using the 3-year MACRS schedule, determine the depreciation expense in year 3.

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| --- | --- | --- |
| Year | | 3-YR MACRS (%) |
| 1 | | 33.33% |
| 2 | | 44.45% |
| 3 | | 14.81% |
| 4 | | 7.41% |
| * + $111,125   + $37,025   + $83,325   + $18,525 | | |
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1. Bookmark question for later

The depreciable asset (aka depreciable base) in the initial outlay calculation is the :

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| * + Purchase price of a new asset only   + Purchase price of a new asset + shipping/installation cost   + Purchase price of a new asset + shipping/installation cost + initial investment in working capital   + Purchase price of a new asset + shipping/installation cost + initial investment in working capital - net proceeds from the sale of old asset |
|  |

1. Bookmark question for later

TippingToys is considering the purchase of a new toy-making machine that will increase revenues by $50,000 a year and annual costs by $10,000. The new machine will cost $100,000 with shipping and installation fees of $10,000. The machine will be depreciated via 5-year MACRS schedule (20.0%, 32.0%, 19.2%, 11.5%, 11.5%, 5.8%). The firm estimates that the new machine can be sold at the end of its five-year life for $20,000.  The new machine will necessitate an investment of $30,000 in working capital that will be fully recovered at the end of the project. Tipping Toys has a 10% cost of capital and a corporate tax rate of 40%.

What is the differential cash flow in Year 3?

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| * + $32,448   + $31,680   + $32,800   + $34,168 |
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1. Bookmark question for later

ABC Corp is considering a project requiring the purchase of new equipment. The firm spent $20,000 on a market assessment four months ago as well as $14,000 for a feasibility study a year ago.

In order to start the new project, the firm has to replace an old machine with a remaining book value of $25,000 (note: this is the original salvage value of the old machine; as such, it is fully depreciated).  While still functional, the machine has no market value and will be scrapped if the new equipment is acquired.  The new machine will cost the firm $220,000. In order to put the machine in working condition, ABC will spend $6,000 in installation and $4,000 in shipping. If the new machine is purchased net working capital will be increased by $10,000. The new machine will be depreciated via the straight-line depreciation method to a salvage value of $0. However, at the end of the new machine’s five-year life, it can be sold for $30,000. The corporate tax rate is 40%.

If accepted, the new machine will increase annual revenues by $150,000 and will increase annual operating cost by $45,000. The company has a marginal tax rate of 40% and a cost of capital of 14%.  The project will last 5 years.

What is the tax implication from the sale of the new machine at Year 5 (the end of its useful life)?

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| * + Tax shields of $12,000   + Tax liabilities of $2,000   + Tax liabilities of $12,000   + Tax shields of $2,000 |
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What is the terminal cash flow of the project?

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| * + $44,552   + $30,000   + $42,000   + $38,172 |
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1. Bookmark question for later

True/False.  One of the strengths of the payback method is that the cutoff is subjective.

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| TrueFalse |
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1. Bookmark question for later

Initial outlay for a capital project is calculated as:

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| * + Purchase price of the asset + Shipping/Installation + Investment in WC + Net Proceeds from Sale of Old Asset   + Purchase price of the asset + Shipping/Installation + Investment in WC – Net Proceeds from Sale of Old Asset   + Purchase price of the asset + Shipping/Installation - Investment in WC – Net Proceeds from Sale of Old Asset   + Purchase price of the asset + Shipping/Installation - Investment in WC |
|  |

1. Bookmark question for later

One of the weaknesses of payback period is that:

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| * + Incremental costs are not considered.   + Sunk costs are not considered.   + The time value of money is not considered.   + All of these choices. |
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1. Bookmark question for later

For capital budgeting analysis, the relevant cash flows from a new project are called:

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| * + Payback cash flows   + Terminal value   + Discount cash flows   + Incremental cash flows |
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1. Bookmark question for later

Which one of the following items should NOT be included in capital budgeting analysis?

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| * + The inflow from the sale of old equipment that is replaced by new equipment.   + Training cost required to safely operate new equipment.   + Cost of the market analysis used to generate sales forecasts.   + The shipping cost of a new machine. |
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1. Bookmark question for later

TippingToys is considering the purchase of a new toy-making machine that will increase revenues by $50,000 a year and annual costs by $10,000. The new machine will replace an outdated machine with a current book value of $10,000 but if scrapped now can only be sold for $6,000.

The new machine will cost $100,000 with shipping and installation fees of $10,000. The machine will be depreciated via 5-year MACRS schedule (20.0%, 32.0%, 19.2%, 11.5%, 11.5%, 5.8%). The firm estimates that the new machine can be sold at the end of its five-year life for $20,000.  The new machine will necessitate an investment of $30,000 in working capital that will be fully recovered at the end of the project. Tipping Toys has a 10% cost of capital and a corporate tax rate of 40%.

What is the tax implication of selling the old machine?

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| * + Tax shield of $1,600   + Tax liabilities of $1,600   + Tax shield of $4,000   + There is no tax effect |
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What is the initial outlay?

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| * + $134,000   + $144,000   + $132,400   + $142,400 |
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What is the NPV of the project?

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| * + $18,824   + $22,206   + $14,755   + $15,718 |
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What is the IRR of the project?

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| * + 12.47%   + 14.85%   + 14.05%   + 13.03% |
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1. Bookmark question for later

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| Initial Outlay | $(5,000) |
| Year 1 | $3,000 |
| Year 2 | $3,500 |
| Year 3 | $3,200 |
| Year 4 | $2,800 |
| Year 5 | $2,500 |

2. What is the NPV if the discount rate is 20%?

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| * + $18,237   + $14,137   + $9,137   + $4,137 |
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1. Bookmark question for later

Which of the following changes will most likely increase the incremental cash flow in the early years of a long-lived project?

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| * + Increasing the marginal tax rate.   + Increasing in resell value of the new machine at the end of its life.   + Using MACRS instead of straight-line depreciation.   + Increasing the initial investment in working capital. |
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1. Bookmark question for later

What is the initial outlay given the following information?

* + Equipment price                             375,000
  + Installation                                       10,000
  + Power survey                                   30,000
  + Shipping                                             8,000
  + Working capital              100,000
  + Project marketing report                  15,000

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| --- |
| * + 503,000   + 488,000   + 493,000   + 538,000 |
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1. Bookmark question for later

What is the net equipment cost given the following when a new piece of equipment replaces an old one?

* + Old equipment sells for                            125,000
  + Book value of old equipment                      22,000
  + Tax rate                                                           40%
  + New equipment cost                                 800,000
  + Site survey                                                  18,000
  + Installation cost                                           20,000

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| --- |
| * + 820,000   + 717,000   + 736,200   + 695,000 |
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1. Bookmark question for later

What is the equipment cost subject to depreciation from the following initial outlay?

* + Old equipment sells for (net of taxes)                       55,000
  + New equipment at cost                                            190,000
  + Installation and shipping                                           18,000
  + Working capital                                             62,000

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| --- |
| * + 270,000   + 208,000   + 197,000   + 153,000 |
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1. Bookmark question for later

A project has sales of $300,000, general expenses of $195,000, and depreciation expense of $25,000. The tax rate is 35%. What is the differential cash flow?

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| * + 77,000   + 52,000   + 80,000   + 105,000 |
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1. Bookmark question for later

Why is depreciation expense taken out of the net income calculation, yet added back at the end?

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| * + Depreciation is a non-cash liability.   + Depreciation expense is tax-deductible.   + Fixed assets should remain on the balance sheet.   + Depreciation is not a current asset. |
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1. Bookmark question for later

A project has net income of $750,000 including depreciation expense of $42,000. What is the differential cash flow?

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| * + 750,000   + 42,000   + 792,000   + 708,000 |
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1. Bookmark question for later

A piece of equipment is to be sold at the end of the project. Its appraised value is $420,000. A company makes an offer for $350,000. The equipment has a book value of $75,000. The tax rate is 40%. What is the salvage value if the company accepts the offer?

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| --- |
| * + 207,000   + 240,000   + 350,000   + 252,000 |
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1. Bookmark question for later

A piece of equipment was sold at the end of the project. The project received $85,000 for the equipment that carried a book value of $75,000. The tax rate is 35%. What is the salvage value?

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| * + 10,000   + 81,500   + 85,000   + 26,250 |
|  |

1. Bookmark question for later

A project is closing. Equipment is sold for $50,000, even though the book value was $75,000. The tax rate is 30%. The project started with $100,000 in working capital. What is the terminal cash flow?

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| * + 152,500   + 127,500   + 75,000   + 157,500 |
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1. Bookmark question for later

Equipment is scrapped at the end of the project and has a book value of $20,000. The tax rate is 35%. The projected started with $75,000 of working capital. What is the terminal cash flow?

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| --- |
| * + 55,000   + 82,000   + -20,000   + 75,000 |
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1. Bookmark question for later

Equipment is sold for $30,000 at the end of a project. The working capital return is $50,000. The tax rate is 40%. What is the terminal cash flow?

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| * + 18,000   + 50,000   + 80,000   + 68,000 |
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1. Bookmark question for later

What are the NPV and IRR for an investment of $550,000 with annual differential cash flows as follows:  Yr 1:  $75,000, Yr 2:  $90,000, Yr 3: $125,000, Yr 4: $100,000, Yr 5: $80,000, and a terminal cash flow of $180,000, if the company uses a discount rate of 7%?

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| --- |
| * + NPV: 152,792 IRR: 5.329%   + NPV: -37594 IRR: 4.837%   + NPV: -75,533 IRR: 3.880%   + NPV: 148,099 IRR: 4.837% |
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1. Bookmark question for later

Why would you reject a project based on NPV?

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| * + The NPV is a negative number.   + The NPV is lower than the IRR.   + The NPV is lower than the investment.   + The IRR is positive. |
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1. Bookmark question for later

Why would you reject this project based on the IRR?

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| --- |
| * + The IRR is higher than the sum of the cash flows.   + The discount rate is lower than the IRR.   + The discount rate is higher than the IRR.   + The IRR is higher than the NPV. |
|  |

1. Bookmark question for later

What is the differential cash flow given the following?

* + - Sales                                50,000
    - Expenses (w/o depn)       30,000
    - Depreciation                    10,000
    - Taxes (.40)                        4,000

|  |
| --- |
| * + 10,000   + 6,000   + 16,000   + 50,000 |
|  |

1. Bookmark question for later

From the following information, calculate the terminal cash flow.

* + Proceeds from sale of equipment    100,000
  + Book value of equipment sold            50,000
  + Year 3 diff cash flow                          225,000
  + Tax rate                                                   40%
  + Depreciation Yrs 1 to 5                      125,000
  + Working capital return                       75,000

|  |
| --- |
| * + 175,000   + 155,000   + 125,000   + 485,000 |
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1. Bookmark question for later

If the investment is $140,000, what is the net present value, given a total present value of $154,606?

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| * + 14,606   + -123,420   + -71,448   + 140,000 |
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1. Bookmark question for later

Why is the NPV preferred over the IRR? (Choose two)

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| * + It is harder to calculate.   + It is more reliable.   + It has a higher dollar value.   + It measures the dollar value. |
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1. Bookmark question for later

What is the IRR given the following?

Investment is $250,000. Yr 1 is $50,000, Yr 2 is $60,000, Yr 3 is $80,000, Yr 4 is $100,000, Yr 5 is $90,000, and the terminal cash flow is $45,000.

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| --- |
| * + 17.213%   + 15.949%   + 13.997%   + 11.549% |
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1. Bookmark question for later

If a WACC of 15.00% is used to compute the NPV, what does the IRR computed in question 110, above, tell about the project?

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| * + The project is unacceptable.   + No decision can be made based on the data.   + The NPV is too large.   + The project is acceptable. |