Radiant Ltd is considering launching a new lighting product that requires an initial investment in machinery and facilities of $300,000. These fixed assets will be depreciated straight-line to zero over their five-year useful life. Radiant spent $10,000 for market research to help estimate demand for the new lighting. The project is estimated to generate $ 1,500,000 in annual sales for five years with annual cost of sales (materials and direct labour) of $1,000,000. The project will also require five additional employees in Radiant's sales team which will increase the company's salaries and wages expenses by $250,000 per year. Also, production of the new product will take place in a warehouse that is currently being rented out for $30,000/year. If the tax rate is 30%, what is the annual operating cash flows (OCF) for the first year of this project? (Since the question asks about year 1 only, you can ignore initial and final year cash flows).

What's relevant?

Compute Depreciation:

Revenue	
Cost of Sales	
Operating Expenses	
Opportunity Cost (lost rent)	
EBITDA	
Less: Depreciation	
EBIT	
Tax expense	
Net Operating Profit after tax (NOPAT)	
Add back Depreciation	
Operating Cash Flow	

Equation 1: $OCF = EBIT \times (1 - taxrate) + Depreciation$

Equation 2: $OCF = EBITDA \times (1 - taxrate) + Depreciation \times taxrate$

Sunk cost

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Opportunity cost

What's relevant? depreciation, revenue/expenses, lost rent, tax rate

Compute Depreciation:

$$\frac{\text{Cost}}{\text{life}} = \frac{300{,}000}{5} = 60{,}000$$

Revenue	+ 1,500,000
Cost of Sales	− 1,000,000
Operating Expenses	− 250,000
Opportunity Cost (lost rent)	− 30,000
EBITDA	220,000
Less: Depreciation	− 60,000
EBIT	160,000 ←
Tax expense EBIT X 30%	− 48,000
Net Operating Profit after tax (NOPAT)	112,000
Add back Depreciation	60,000
Operating Cash Flow	172,000

Equation 1: $OCF = EBIT \times (1 - taxrate) + Depreciation$

$(1{,}500{,}000 - 1{,}000{,}000 - 250{,}000 - 30{,}000 - \underline{60{,}000}) \times (1 - 0.3) + \underline{60{,}000} = \underline{\underline{172{,}000}}$

Equation 2: $OCF = EBITDA \times (1 - taxrate) + Depreciation \times taxrate$

$(1{,}500{,}000 - 1000{,}000 - 250{,}000 - 30{,}000) \times (1 - 0.3) + 60{,}000 \times 0.3 = \underline{\underline{172{,}000}}$