1.

Award: 20.00 points Problems? Adjust credit for all students.

CH 8 ASSESSMENT

Diaz Company owns a machine that cost $126,600 and has accumulated depreciation of $92,800. Prepare the entry to record the disposal of the machine on January 1 in each separate situation.

1. The machine needed extensive repairs and was not worth repairing. Diaz disposed of the machine, receiving nothing in return.
2. Diaz sold the machine for $15,700 cash.
3. Diaz sold the machine for $33,800 cash.
4. Diaz sold the machine for $41,200 cash.

No	Date	General Journal	Debit	Credit
1	January 01	Loss on disposal of machine	33,800	
		Accumulated depreciation—Machine	92,800	
		Machine		126,600
2	January 01	Cash	15,700	
		Loss on sale of machine	18,100	
		Accumulated depreciation—Machine	92,800	
		Machine		126,600
3	January 01	Cash	33,800	
		Accumulated depreciation—Machine	92,800	
		Machine		126,600
4	January 01	Cash	41,200	
		Accumulated depreciation—Machine	92,800	
		Gain on sale of machine		7,400
		Machine		126,600

Explanation:

Book value of machine = $126,600 − $92,800 = $33,800

Hints

Hint #1

P# 1076

[The following information applies to the questions displayed below.]

Ramirez Company installs a computerized manufacturing machine in its factory at the beginning of the year at a cost of $49,000. The machine's useful life is estimated at 10 years, or 400,000 units of product, with a $9,000 salvage value. During its second year, the machine produces 34,000 units of product.

2.

Award: 20.00 points Problems? Adjust credit for all students.

Required information

Determine the machine's second-year depreciation and year end book value under the straight-line method.

Straight-Line Depreciation				
Choose Numerator:	/	Choose Denominator:	=	Annual Depreciation Expense
Cost minus salvage	/	Estimated useful life (years)	=	Depreciation expense
$ 40,000	/	10	=	$ 4,000
Year 2 Depreciation		$ 4,000		
Year end book value (Year 2)		$ 41,000		

Explanation:

Straight-line
($49,000 − $9,000) / 10 years = $4,000

3.

Award: 20.00 points Problems? Adjust credit for all students.

Required information

Determine the machine's second-year depreciation using the units-of-production method.

Units-of-production Depreciation				
Choose Numerator:	/	Choose Denominator:	=	Annual Depreciation Expense
Cost minus salvage	/	Total units of production	=	Depreciation expense per unit
$ 40,000	/	400,000	=	$ 0.10
Year		Annual Production (units)		Depreciation Expense
Year 2		34,000		$ 3,400

Explanation:

Units-of-production:
Depreciation per unit = ($49,000 − $9,000) / 400,000 units = $0.10 per unit
For 34,000 units in second year: Depreciation = 34,000 × $0.10 = $3,400

2

Hints

Hint #1

[The following information applies to the questions displayed below.]

Ramirez Company installs a computerized manufacturing machine in its factory at the beginning of the year at a cost of $49,000. The machine's useful life is estimated at 10 years, or 400,000 units of product, with a $9,000 salvage value. During its second year, the machine produces 34,000 units of product.

4.

Award: 20.00 points Problems? Adjust credit for all students.

Required information

Determine the machine's second-year depreciation using the double-declining-balance method.

Double-declining-balance Depreciation

	Choose Factors:	×	Choose Factor(%)	=	Annual Depreciation Expense
	Beginning book value	×	Double the straight-line rate	=	Depreciation expense
First year's depreciation	$ 49,000	×	20%	=	$ 9,800
Second year's depreciation	$ 39,200	×	20%	=	$ 7,840

Explanation:

Double-declining-balance rate = (100% / 10 years) × 2 = 20% per year
First year's depreciation = $49,000 × 20% = $9,800
Book value at beginning of second year = $49,000 − $9,800 = $39,200
Second year's depreciation = $39,200 × 20% = $7,840

Hints

Hint #1

5.

Award: 20.00 points Problems? Adjust credit for all students.

A machine costing $215,400 with a four-year life and an estimated $19,000 salvage value is installed in Luther Company's factory on January 1. The factory manager estimates the machine will produce 491,000 units of product during its life. It actually produces the following units: 122,800 in Year 1, 123,100 in Year 2, 119,700 in Year 3, 135,400 in Year 4. The total number of units produced by the end of Year 4 exceeds the original estimate—this difference was not predicted. Note: The machine cannot be depreciated below its estimated salvage value.

Required:
Compute depreciation for each year (and total depreciation of all years combined) for the machine under each depreciation method. (Round your per unit depreciation to 2 decimal places. Round your answers to the nearest whole dollar.)

Complete this question by entering your answers in the tabs below.

Straight Line | Units of Production | DDB

Compute depreciation for each year (and total depreciation of all years combined) for the machine under the Straight-line depreciation.

Straight-Line Depreciation

Year	Depreciation Expense
Year 1	$ 49,100
Year 2	49,100
Year 3	49,100
Year 4	49,100
Total	$ 196,400

< Straight Line Units of Production >

Explanation:

Cost of machine	$ 215,400
Less estimated salvage value	19,000
Total depreciable cost	$ 196,400

Straight-line:
Cost per year = $196,400 / 4 years = $49,100 per year

Units-of-production:
Cost per unit = $196,400 / 491,000 units = $0.40 per unit

Year	Units	Unit Cost	Depreciation	Accumulated Depreciation	Book Value
1	122,800	$ 0.40	$ 49,120	$ 49,120	$ 166,280
2	123,100	0.40	49,240	98,360	117,040
3	119,700	0.40	47,880	146,240	69,160
4	135,400	0.40	50,160*	196,400*	19,000
Total			$ 196,400		

* 135,400 × $0.40 = $54,160; however, using $54,160 would make accumulated depreciation exceed the $196,400 total depreciable cost. This means we take only enough depreciation in Year 4 to decrease book value to the asset's $19,000 salvage value (never lower).

Double-declining-balance:
(100% / 4) × 2 = 50% depreciation rate

Year	Beginning Book Value	Annual Depreciation (50% of Book Value)	Accumulated Depreciation at Year-End	Ending Book Value ($215,400 Cost Less Accumulated Depreciation)
1	$ 215,400	$ 107,700	$ 107,700	$ 107,700
2	107,700	53,850	161,550	53,850
3	53,850	26,925*	188,475	26,925
4	26,925	7,925**	196,400	19,000
Total		$ 196,400		

4

* rounded
**26,925 × 50% = $13,462; however, using $13,462 would make accumulated depreciation exceed the $196,400 total depreciable cost. This means we take only enough depreciation in Year 4 to reduce book value to the asset's $19,000 salvage value (never lower).

5. Award: 20.00 points Problems? Adjust credit for all students.

A machine costing $215,400 with a four-year life and an estimated $19,000 salvage value is installed in Luther Company's factory on January 1. The factory manager estimates the machine will produce 491,000 units of product during its life. It actually produces the following units: 122,800 in Year 1, 123,100 in Year 2, 119,700 in Year 3, 135,400 in Year 4. The total number of units produced by the end of Year 4 exceeds the original estimate—this difference was not predicted. Note: The machine cannot be depreciated below its estimated salvage value.

Required:
Compute depreciation for each year (and total depreciation of all years combined) for the machine under each depreciation method. **(Round your per unit depreciation to 2 decimal places. Round your answers to the nearest whole dollar.)**

Complete this question by entering your answers in the tabs below.

Straight Line | Units of Production | DDB

Compute depreciation for each year (and total depreciation of all years combined) for the machine under the Units of production.

Units of Production

Year	Units	Depreciable Units	Depreciation per unit	Depreciation Expense
Year 1	122,800	122,800	$ 0.40	$ 49,120 +/-1
Year 2	123,100	123,100	$ 0.40	49,240 +/-1
Year 3	119,700	119,700 F	$ 0.40	47,880 +/-1
Year 4	135,400	125,400 F	$ 0.40	50,160 +/-1
Total		F $ 491,000		F $ 196,400

< Straight Line DDB >

Explanation:

Cost of machine	$ 215,400
Less estimated salvage value	19,000
Total depreciable cost	$ 196,400

Straight-line:
Cost per year = $196,400 / 4 years = $49,100 per year

Units-of-production:
Cost per unit = $196,400 / 491,000 units = $0.40 per unit

Year	Units	Unit Cost	Depreciation	Accumulated Depreciation	Book Value
1	122,800	$ 0.40	$ 49,120	$ 49,120	$ 166,280
2	123,100	0.40	49,240	98,360	117,040
3	119,700	0.40	47,880	146,240	69,160
4	135,400	0.40	50,160*	196,400*	19,000
Total			$ 196,400		

cant depreciate below salvage value

* 135,400 × $0.40 = $54,160; however, using $54,160 would make accumulated depreciation exceed the $196,400 total depreciable cost. This means we take only enough depreciation in Year 4 to decrease book value to the asset's $19,000 salvage value (never lower).

5.

Award: 20.00 points Problems? Adjust credit for all students.

A machine costing $215,400 with a four-year life and an estimated $19,000 salvage value is installed in Luther Company's factory on January 1. The factory manager estimates the machine will produce 491,000 units of product during its life. It actually produces the following units: 122,800 in Year 1, 123,100 in Year 2, 119,700 in Year 3, 135,400 in Year 4. The total number of units produced by the end of Year 4 exceeds the original estimate—this difference was not predicted. Note: The machine cannot be depreciated below its estimated salvage value.

Required:
Compute depreciation for each year (and total depreciation of all years combined) for the machine under each depreciation method. **(Round your per unit depreciation to 2 decimal places. Round your answers to the nearest whole dollar.)**

Complete this question by entering your answers in the tabs below.

Straight Line | Units of Production | DDB

Compute depreciation for each year (and total depreciation of all years combined) for the machine under the Double-declining-balance.

	DDB Depreciation for the Period			End of Period	
Year	Beginning of Period Book Value	Depreciation Rate	Depreciation Expense	Accumulated Depreciation	Book Value
Year 1	$ 215,400 +/-1	50 %	$ 107,700 +/-1 F	$ 107,700 F	$ 107,700
Year 2	107,700 +/-1	50 %	53,850 +/-1 F	161,550 F	53,850
Year 3	53,850 +/-1	50 %	26,925 +/-1 F	188,475 F	26,925
Year 4	26,925 +/-1 F	50 %	7,925 +/-1 F	196,400 F	19,000
Total			F $ 196,400		

< Units of Production DDB >

Explanation:

Cost of machine	$ 215,400
Less estimated salvage value	19,000
Total depreciable cost	$ 196,400

Double-declining-balance:
(100% / 4) × 2 = 50% depreciation rate

Year	Beginning Book Value	Annual Depreciation (50% of Book Value)	Accumulated Depreciation at Year-End	Ending Book Value ($215,400 Cost Less Accumulated Depreciation)
1	$ 215,400	$ 107,700	$ 107,700	$ 107,700
2	107,700	53,850	161,550	53,850
3	53,850	26,925*	188,475	26,925
4	26,925	7,925**	196,400	19,000
Total		$ 196,400		

696

* rounded
**26,925 × 50% = $13,462; however, using $13,462 would make accumulated depreciation exceed the $196,400 total depreciable cost. This means we take only enough depreciation in Year 4 to reduce book value to the asset's $19,000 salvage value (never lower).