



## Depreciation Worksheet - KEY

(A STEM integration assignment in Mathematical applications)

### Situation 1 – Beginning Inventory of a Livestock Trailer for livestock SAEs

The beginning value is \$8,500, a useful life of 20 years and a salvage value \$7,000. Calculate annual depreciation and book value at year 4.

| Annual depreciation =                             | Book Value Ending Yr. 4  |
|---|--|
| $(8500 - 7000) / 20 = \$75$ depreciation per year | $8500 - 75 - 75 - 75 - 75 = \$8,200$ ending book value for year 4. |

### Situation 2 – Purchased Sow used in a swine breeding SAE

Purchased in your second year for \$700, useful life of 5 years and a salvage value of \$550. Calculate annual depreciation and value at the end of year 4.

| Annual depreciation =                          | Book Value Ending Yr. 4   |
|--|---|
| $(700 - 550) / 5 = \$30$ depreciation per year | $700 - 30 - 30 - 30 - 30 = \$580$ ending book value for year 4. |

### Situation 3 – Building a horse stall/barn for your Equine SAE

Purchased all materials for \$2,500 in your first year, useful life of 10 years and the ability to sell the barn and panels for \$1,500 at the end of your use. Calculate book value year 3.

| Annual depreciation =                              | Book Value Ending Yr. 3  |
|--|--|
| $(2500 - 1500) / 10 = \$100$ depreciation per year | $2500 - 100 - 100 - 100 = \$2,200$ ending book value for year 3. |

### Situation 4 – Purchased animal traps for wildlife business SAE

Purchased traps for \$1,200 in your last year, they have a useful life of 10 years and a resale value of \$800. Calculate the annual depreciation expense and book value at the end of year 1.

| Annual depreciation =                            | Book Value Ending Yr. 1                             |
|--|---|
| $(1200 - 800) / 10 = \$40$ depreciation per year | $1200 - 40 = \$1,160$ ending book value for year 1. |

### Situation 5 – Beginning Inventory of Bull for Breeding Beef SAE

The beginning value of a bull for \$2,500 with a planned resale back to the breeder for salvage value \$2,400 and carries a useful life of 7 years. Calculate annual depreciation and book value at the end of year 2.

| Annual depreciation =                               | Book Value Ending Yr. 2   |
|---|---|
| $(2500 - 2400) / 7 = \$14.29$ depreciation per year | $2500 - 14.29 - 14.29 = \$2,471.42$ ending book value for year 2. |

### Situation 6 – Purchased tractor for livestock and hay SAEs

Purchase a 56HP tractor for \$26,600 in your first year, salvage value of \$15,000 and a useful life of 20 years. Calculate annual depreciation and the book value at end of year 4.

| Annual depreciation =                                  | Book Value Ending Yr. 4   |
|--|---|
| $(26,600 - 15,000) / 20 = \$580$ depreciation per year | $26,600 - 580 - 580 - 580 - 580 = \$24,280$ ending book value for year 4. |

### Situation 7 – Purchased animal scales for swine and goat SAEs

Purchased animal scales for \$1,100 with salvage value of \$900 and carries a useful life of 10 years. Calculate annual depreciation and book value at the end of year 4.

| Annual depreciation =                            | Book Value Ending Yr. 4  |
|--|--|
| $(1100 - 900) / 10 = \$20$ depreciation per year | $1100 - 20 - 20 - 20 - 20 = \$1,020$ ending book value for year 4. |

