AR.ERP.3 Micro-Lesson
Solving Exponential Problems Involving Compound Interest and Depreciation

Compound Interest Formula

***A* = _____**

1 A teacher put $8,000 in a retirement account that pays 3.25% interest compounded daily. The teacher makes no additional deposits or withdrawals. What is the balance in dollars and cents of the account at the end of 9 years?

P = _____ *A* = _____

r = _____

t = _____

n = _____

Depreciation Formula

***y* = _____**

2 John bought a new laptop for $1,650. The laptop depreciates 2.3% in value every 8 months. What will the value of the laptop be after 4 years?

a = _____ *y* = _____

b = _____

t = _____

AR.ERP.3 Practice 1
Solving Exponential Problems Involving Compound Interest

1 A restaurant owner put $7,000 in an individual retirement account that earns 2.5% interest compounded monthly. The restaurant owner made no additional deposits or withdrawals. What was the balance in dollars and cents in the restaurant owner's individual retirement account at the end of 8 years?

P = _____ A = _____

r = _____

t = _____

n = _____

2 Nicole deposits $1,500 in a savings account that pays 5% interest compounded annually. Nicole makes no additional deposits or withdrawals. What is the balance of Nicole's account at the end of 3 years?

P = _____ A = _____

r = _____

t = _____

n = _____

3 Mr. Bell invested $13,000 in a fund that earns 6.25% interest compounded daily. Mr. Bell makes no additional deposits or withdrawals. How much money should Mr. Bell expect to have in this fund at the end of 5 years?

P = _____ A = _____

r = _____

t = _____

n = _____

4 Brandon deposits $5,500 in an account that pays 1% interest compounded quarterly. Brandon makes no additional deposits or withdrawals. What is the balance of the account at the end of 2 years?

P = _____ A = _____

r = _____

t = _____

n = _____

AR.ERP.3 Practice 2
Solving Exponential Problems Involving Depreciation

1 A car purchased for $38,200 depreciates by 6% every two years. What will the value be after 10 years?

a = _____ y = _____

b = _____

t = _____

2 A manufacturing plant purchases a piece of machinery for $225,000. The machine depreciates by 3.5% every year. What will the value of the machine be after 4 years?

a = _____ y = _____

b = _____

t = _____

3 A storeowner invested $15,500 in a printer that depreciates 1.6% in value every 6 months. What will the value of the printer be after 5 years?

a = _____ y = _____

b = _____

t = _____

4 Laurie bought a tool for $475. The tool depreciates 8% in value every 10 years. What will the value of the tool be after 50 years?

a = _____ y = _____

b = _____

t = _____

AR.ERP.3 Micro-Assessment
Solving Exponential Problems Involving Compound Interest and Depreciation

1 Ms. Garcia opened an account with a deposit of $8,500.

- The account earns 4% interest compounded quarterly.
- Ms. Moore makes no additional deposits or withdrawals.

Which amount is closest to the balance of the account at the end of 5 years?

A. $10,200

B. $8,840

C. $8,520

D. $10,372

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2 Felix bought a used car for $14,375. The car depreciates 3.1% in value every year. What will the value of the car be after 4 years?

A. $17,800

B. $3,258

C. $12,674

D. $13,929