**Classify the model as *exponential growth* or *exponential decay*.**

1. y = 0.55(3)t
2. y = 3(0.55)t
3. y = 55(3)t
4. y = 55(0.3)t

**EXPONENTIAL DECAY MODEL** Identify the initial amount and the decay factor in the exponential function.

1. y = 10(0.2)t
2. y = 19(0.11)t
3. y = 2( )t
4. y = 0.5( )t

**WRITING EXPONENTIAL MODELS** Write an exponential model to represent the situation.

1. A $25,000 car depreciates at a rate of 9% each year.
2. A population of 100,000 decreases by 2% each year.
3. A new sound system, valued at $800, decreases in value by 10% each year.

**FINANCE** Write an exponential decay model for the investment.

1. A stock is valued at $100. Then the value decreases by 9% per year.
2. $550 is placed in a mutual fund. Then the value decreases by 4% per year.
3. A bond is purchased for $70. Then the value decreases by 1% per year.

**TRUCKS** You buy a used truck for $20,000. The truck depreciates 7% per year. Find the value of the truck after the fiven number of years.

1. 3 years
2. 8 years
3. 10 years
4. 12 years

**ESTIMATING** Write an exponential decay model for the situation. Then estimate the value at the end of the time period.

1. A $22,000 investment decreases in value by 9% per year for 8 years.
2. A population 2,000,000 decreases by 2% per year for 15 years.
3. You buy a new motorcycle for $10,500. It’s value depreciates by 10% each year for the 10 years you own it.

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