

Name: _____

Date: _____

Grow $r\%$ per period: $y = a(1 + r)^t$. Shrink $r\%$: $y = a(1 - r)^t$. Last two are challenge problems!

1. \$300 grows 5% per year. Write the model.

show your work

2. Same account after 2 years?

show your work

3. A \$900 laptop loses 20% of value yearly. Model?

show your work

4. Same laptop after 3 years?

show your work

5. In $v(t) = 500(1.08)^t$, what is the percent growth rate? (Trainer echo!)

show your work

6. In $y = 250(0.94)^t$, what percent decay?

show your work

7. A town of 8000 grows 3% yearly. Population after 4 years (nearest whole)?

show your work

8. Which grows faster after many years: $y = 1000(1.02)^t$ or $y = 500(1.06)^t$?

show your work

- 9.** A car worth \$24,000 loses 15% per year. Write the model and find when it's first below \$12,000 (test whole years).

★ CHALLENGE

show your work

- 10.** Tuition is \$10,000 and rises 4% yearly. Model, cost in 3 years, and total % increase over those 3 years.

★ CHALLENGE

show your work