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

b = 1.05

Answer: y = 300(1.05)^t

2. Same account after 2 years?

300 x 1.1025

Answer: $330.75

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

b = 0.80

Answer: y = 900(0.80)^t

4. Same laptop after 3 years?

900 x 0.512

Answer: $460.80

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

1.08 = 1 + 0.08

Answer: 8% per year

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

1 - 0.94

Answer: 6% per period

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

8000 x 1.03^4 = 8000 x 1.1255

Answer: about 9004

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

Bigger b wins long-run

Answer: the 6% one - rate beats start

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

y = 24000(0.85)^t

t=4: 12,528; t=5: 10,649

Answer: year 5

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

y = 10000(1.04)^t

1.04^3 = 1.1249 - $11,248.64

Answer: $11,248.64; about 12.5% total