GROWTH, DECAY, & LOGS

A population increases from 100 to 120 to 144.

– Find the growth rate r between each interval.
– Find the growth factor a.
– Explain the relationship between a and r.

A medication loses 40% of its amount each hour. Initial dose: 500 mg.

– Write the exponential decay model.
– How much remains after 3 hours?

A population of insects doubles every 6 days. Initially there are 120 insects.

- Write the exponential model.
- How many insects after 18 days?

A town's population grows continuously at 1.8% per year. In 2020, the population was 42,000.

- Write the model.
- Predict the population in 2030.
- When will the population reach 60,000?