



Exponential Function Solving - Decay (Discrete, Mis-matched Time Units)

Equation to Value at Time

1 Solve for the final cash given this model of a balance of a charitable endowment (monthly disbursements)?

$$P = 300 \cdot (1 - 0.05)^{(8 \cdot 12)}$$

A $P = P_0 \cdot (1 - r)^{(t \cdot 12)}$

C $P = P_0 \cdot (1 + r)^{(\frac{t}{12})}$

B $P = \frac{P_0}{(1 - r)^{(t \cdot 12)}}$

2 Solve for the final cash given this model of a balance of a charitable endowment (monthly disbursements)?

$$P = 200 \cdot (1 - 0.09)^{(3 \cdot 12)}$$

A $P = P_0 \cdot (1 - r)^{(t \cdot 12)}$

B $P = P_0 \cdot (1 + r)^{(\frac{t}{12})}$

3 Solve for the final concentration given this model of a decline of a toxin concentration (hourly dialysis)?

$$C = 300 \cdot (1 - 0.06)^{(4 \cdot 24)}$$

A $C = C_0 \cdot (1 + r)^{(\frac{t}{24})}$

B $C = C_0 \cdot (1 - r)^{(t \cdot 24)}$

4 Solve for the final cash given this model of a balance of a charitable endowment (yearly disbursements)?

$$P = 200 \cdot (1 - 0.05)^{(\frac{1095}{365})}$$

A $P = \frac{P_0}{(1 - r)^{(\frac{t}{365})}}$

C $P = P_0 \cdot (1 + r)^{(t \cdot 365)}$

B $P = P_0 \cdot (1 - r)^{(\frac{t}{365})}$

5 Solve for the final cash given this model of a balance of a charitable endowment (yearly disbursements)?

$$P = 600 \cdot (1 - 0.08)^{(\frac{84}{12})}$$

A $P = P_0 \cdot (1 - r)^{(\frac{t}{12})}$

C $P = P_0 \cdot (1 + r)^{(t \cdot 12)}$

B $P = \frac{P_0}{(1 - r)^{(\frac{t}{12})}}$

6 Solve for the final concentration given this model of a decline of a toxin concentration (daily dialysis)?

$$C = 900 \cdot (1 - 0.05)^{(2 \cdot 7)}$$

A $C = \frac{C_0}{(1 - r)^{(t \cdot 7)}}$

C $C = C_0 \cdot (1 + r)^{(\frac{t}{7})}$

B $C = C_0 \cdot (1 - r)^{(t \cdot 7)}$

7 Solve for the final cash given this model of a balance of a charitable endowment (weekly disbursements)?

$$P = 500 \cdot (1 - 0.08)^{(\frac{42}{7})}$$

A $P = \frac{P_0}{(1 - r)^{(\frac{t}{7})}}$

B $P = P_0 \cdot (1 - r)^{(\frac{t}{7})}$

8 Solve for the final concentration given this model of a decline of a toxin concentration (daily dialysis)?

$$C = 700 \cdot (1 - 0.04)^{(\frac{144}{24})}$$

A $C = \frac{C_0}{(1 - r)^{(\frac{t}{24})}}$

C $C = C_0 \cdot (1 + r)^{(t \cdot 24)}$

B $C = C_0 \cdot (1 - r)^{(\frac{t}{24})}$