

## Practice - Solve for x

$$h = (r)^{x-a} + k$$

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*(Note: Red annotations show  $-k$  under  $h$  and  $-k$  under  $+k$ , with a blue slash through the  $+k$  term.)*

$$h - k = r^{x-a}$$

$$r^{x-a} = h - k$$

$$\log_r(h - k) = x - a$$

*(Note: Red annotations show  $+a$  under  $\log_r$  and  $+a$  under  $-a$ .)*

$$x = a + \log_r(h - k)$$

## Practice - Solve for t

$$A = P(1 - r)^t$$

## Practice - Solve for t

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

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

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

$$\log_{(1-r)}\left(\frac{A}{P}\right) = t$$

$$t = \log_{(1-r)}\left(\frac{A}{P}\right)$$

## Practice - Solve for r

$$A = P(1 - r)^t$$

## Practice - Solve for r

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

$$\left(\frac{A}{P}\right)^{\frac{1}{t}} = \left((1-r)^t\right)^{\frac{1}{t}}$$

$$\sqrt[t]{\frac{A}{P}} = 1 - r$$

$$-1 \left(-1 + \sqrt[t]{\frac{A}{P}}\right) = -r(-1)$$

$$r = 1 - \sqrt[t]{\frac{A}{P}}$$