



Evaluate exponential functions

- 1 What is the term in this number sequence when $r = 3$

$$8^r$$

A	B	C
512	48	52488
D	E	F
6561	216	40

- 2 What is the value of the final population given this model of a continuous decline of a whale population?

$$P = 400 \cdot e^{(-0.05 \cdot 9)}$$

A	$P = 260$
B	$P = 220$
C	$P = 255$
D	$P = 360$

- 3 What is the value of the final debt given this model of a growth in credit card debt with quarterly interest?

$$D = 300 \cdot (1 + 0.09)^{(4 \cdot 4)}$$

A	$D = 1,730$
B	$D = 1,191$
C	$D = 850$
D	$D = 1,780$

- 4 What is the value of the final population given this model of a growth of a rabbit population (yearly breeding cycle)?

$$P = 800 \cdot (1 + 0.03)^{(5)}$$

A	$P = 927$
B	$P = 1,305$
C	$P = 925$
D	$P = 1,230$

- 5 What is the value of the final downloads given this model of a continuously compounding growth of app downloads?

$$A = 200 \cdot e^{(0.03 \cdot 5)}$$

A	$A = 232$
B	$A = 170$
C	$A = 205$
D	$A = 325$

- 6 What is the time in this equation for a quarterly compounding growth of money in a savings account?

$$914 = 500 \cdot (1 + 0.09)^{(7)}$$

A	$t = 914$
B	$t = 500$
C	$t = 7$



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An app starts with 300 downloads. Its download count grows continually by 2% each year. After 6 years it has a larger number of downloads.

A	$A = 205$
B	$A = 475$
C	$A = 270$
D	$A = 338$

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What is the value of the final concentration given this model of a continuous reduction of a toxin concentration?

$$C = 600 \cdot e^{(-0.04 \cdot 5)}$$

A	$C = 491$
B	$C = 735$
C	$C = 675$
D	$C = 505$

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What is the value of the final cash given this model of a monthly compounding growth of money in a savings account?

$$P = 700 \cdot (1 + 0.05)^{(3 \cdot 12)}$$

A	$P = 4,240$
B	$P = 4,054$
C	$P = 5,820$
D	$P = 5,590$

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What is the value of the final population given this model of a growth of an insect population that breeds once per year?

$$P = 900 \cdot (1 + 0.06)^{(7)}$$

A	$P = 1,230$
B	$P = 1,430$
C	$P = 1,353$
D	$P = 1,990$

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What is the value of the final population given this model of a continuous growth of a rabbit population?

$$P = 500 \cdot e^{(0.08 \cdot 2)}$$

A	$P = 586$
B	$P = 415$
C	$P = 820$
D	$P = 730$

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What is the rate in this equation for a growth in credit card debt with quarterly interest?

$$281 = 200 \cdot (1 + 0.05)^{(7)}$$

A	$r = 5\%$
B	$r = 281\%$
C	$r = 200\%$