



Exponential Function Solving - Growth (Continuous) Equation to Value at Time

- 1 What is the value of the final price given this model of a continuously compounding growth of a share price?

$$S = 400 \cdot e^{(0.06 \cdot 7)}$$

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|---|-----------|---|-----------|
| A | $S = 615$ | B | $S = 455$ |
| C | $S = 610$ | D | $S = 608$ |

- 2 What is the value of the final population given this model of a continuous growth of an insect population?

$$P = 500 \cdot e^{(0.09 \cdot 4)}$$

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|---|-------------|---|-----------|
| A | $P = 615$ | B | $P = 595$ |
| C | $P = 1,045$ | D | $P = 716$ |

- 3 What is the value of the final views given this model of a continuous exponential growth of social media post views?

$$V = 700 \cdot e^{(0.04 \cdot 9)}$$

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|---|-------------|---|-------------|
| A | $V = 1,500$ | B | $V = 1,003$ |
| C | $V = 1,360$ | D | $V = 880$ |

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

$$A = 600 \cdot e^{(0.04 \cdot 8)}$$

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|---|-----------|---|-------------|
| A | $A = 826$ | B | $A = 1,120$ |
| C | $A = 605$ | D | $A = 680$ |

- 5 What is the value of the final debt given this model of a growth of debt on a credit card with continuous compounding?

$$D = 200 \cdot e^{(0.06 \cdot 8)}$$

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|---|-----------|---|-----------|
| A | $D = 215$ | B | $D = 295$ |
| C | $D = 220$ | D | $D = 323$ |

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

$$P = 900 \cdot e^{(0.02 \cdot 6)}$$

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|---|-------------|---|-----------|
| A | $P = 1,014$ | B | $P = 630$ |
| C | $P = 850$ | D | $P = 970$ |

- 7 What is the value of the final price given this model of a continuously compounding growth of a share price?

$$S = 900 \cdot e^{(0.05 \cdot 4)}$$

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|---|-------------|---|-------------|
| A | $S = 670$ | B | $S = 990$ |
| C | $S = 1,210$ | D | $S = 1,099$ |

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

$$P = 400 \cdot e^{(0.05 \cdot 6)}$$

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|---|-----------|---|-----------|
| A | $P = 539$ | B | $P = 450$ |
| C | $P = 575$ | D | $P = 705$ |