



# Exponential Function Solving - Growth (Discrete) Scenario to Starting Value

1

A rabbit population starts at a certain size. Each subsequent yearly breeding season it grows by 4%. After 2 years it has increased to a population of 648 rabbits.

What is the value of the starting population given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $P_0 = 600$ | <sup>B</sup> $P_0 = 700$ |
| <sup>C</sup> $P_0 = 800$ | <sup>D</sup> $P_0 = 400$ |
|                          |                          |

2

A rabbit population starts at a certain size. Each subsequent yearly breeding season it grows by 7%. After 2 years it has increased to a population of 915 rabbits.

What is the value of the starting population given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $P_0 = 800$ | <sup>B</sup> $P_0 = 500$ |
| <sup>C</sup> $P_0 = 700$ | <sup>D</sup> $P_0 = 900$ |
|                          |                          |

3

A credit card starts with a certain amount of debt. Each subsequent quarter it grows by 4% in interest. After 9 quarters the debt has grown to \$284.

What is the value of the starting debt given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $D_0 = 300$ | <sup>B</sup> $D_0 = 200$ |
| <sup>C</sup> $D_0 = 400$ | <sup>D</sup> $D_0 = 500$ |
|                          |                          |

4

A rabbit population starts at a certain size. Each subsequent yearly breeding season it grows by 9%. After 3 years it has increased to a population of 906 rabbits.

What is the value of the starting population given this scenario?

|                          |                           |
|--------------------------|---------------------------|
| <sup>A</sup> $P_0 = 700$ | <sup>B</sup> $P_0 = 600$  |
| <sup>C</sup> $P_0 = 900$ | <sup>D</sup> $P_0 = 1000$ |
|                          |                           |

5

A savings account starts with a certain amount of cash. Each subsequent month it earns 6% in interest. After 4 months it has \$252.

What is the value of the starting cash given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $P_0 = 500$ | <sup>B</sup> $P_0 = 200$ |
| <sup>C</sup> $P_0 = 300$ | <sup>D</sup> $P_0 = 400$ |
|                          |                          |

6

A rabbit population starts at a certain size. Each subsequent yearly breeding season it grows by 2%. After 3 years it has increased to a population of 530 rabbits.

What is the value of the starting population given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $P_0 = 500$ | <sup>B</sup> $P_0 = 600$ |
| <sup>C</sup> $P_0 = 800$ | <sup>D</sup> $P_0 = 300$ |
|                          |                          |

7

An insect population starts at a certain size. Each subsequent yearly breeding season it grows by 4%. After 7 years it has increased to a population of 1,184.

What is the value of the starting population given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $P_0 = 600$ | <sup>B</sup> $P_0 = 700$ |
| <sup>C</sup> $P_0 = 800$ | <sup>D</sup> $P_0 = 900$ |
|                          |                          |

8

An insect population starts at a certain size. Each subsequent yearly breeding season it grows by 9%. After 3 years it has increased to a population of 1,036.

What is the value of the starting population given this scenario?

|                          |                          |
|--------------------------|--------------------------|
| <sup>A</sup> $P_0 = 500$ | <sup>B</sup> $P_0 = 600$ |
| <sup>C</sup> $P_0 = 700$ | <sup>D</sup> $P_0 = 800$ |
|                          |                          |