



Exponential Function Solving - Growth (Discrete) Scenario to Time

1

What is the value of the time given this scenario?

An insect population starts at 900. Each subsequent yearly breeding season it grows by 2%. After a certain number of years it has increased to a population of 974.

$$\overset{A}{t} = 3 \text{ years} \quad \overset{B}{t} = 5 \text{ years}$$

$$\overset{C}{t} = 4 \text{ years} \quad \overset{D}{t} = 6 \text{ years}$$

2

What is the value of the time given this scenario?

A credit card starts with \$500 of debt. Each subsequent year it grows by 9% in interest. After a certain number of years the debt has grown to \$594.

$$\overset{A}{t} = 2 \text{ years} \quad \overset{B}{t} = 1 \text{ year}$$

$$\overset{C}{t} = 3 \text{ years} \quad \overset{D}{t} = 4 \text{ years}$$

3

What is the value of the time given this scenario?

A credit card starts with \$900 of debt. Each subsequent month it grows by 3% in interest. After a certain number of months the debt has grown to \$1,106.

$$\overset{A}{t} = 6 \text{ months} \quad \overset{B}{t} = 7 \text{ months}$$

$$\overset{C}{t} = 9 \text{ months} \quad \overset{D}{t} = 8 \text{ months}$$

4

What is the value of the time given this scenario?

A credit card starts with \$400 of debt. Each subsequent year it grows by 5% in interest. After a certain number of years the debt has grown to \$590.

$$\overset{A}{t} = 8 \text{ years} \quad \overset{B}{t} = 9 \text{ years}$$

$$\overset{C}{t} = 7 \text{ years} \quad \overset{D}{t} = 10 \text{ years}$$

5

What is the value of the time given this scenario?

An insect population starts at 700. Each subsequent yearly breeding season it grows by 4%. After a certain number of years it has increased to a population of 757.

$$\overset{A}{t} = 3 \text{ years} \quad \overset{B}{t} = 1 \text{ year}$$

$$\overset{C}{t} = 2 \text{ years} \quad \overset{D}{t} = 4 \text{ years}$$

6

What is the value of the time given this scenario?

A credit card starts with \$500 of debt. Each subsequent month it grows by 8% in interest. After a certain number of months the debt has grown to \$583.

$$\overset{A}{t} = 2 \text{ months} \quad \overset{B}{t} = 4 \text{ months}$$

$$\overset{C}{t} = 3 \text{ months} \quad \overset{D}{t} = 1 \text{ month}$$

7

What is the value of the time given this scenario?

A rabbit population starts at 900. Each subsequent yearly breeding season it grows by 7%. After a certain number of years it has increased to a population of 1,262 rabbits.

$$\overset{A}{t} = 5 \text{ years} \quad \overset{B}{t} = 7 \text{ years}$$

$$\overset{C}{t} = 4 \text{ years} \quad \overset{D}{t} = 6 \text{ years}$$

8

What is the value of the time given this scenario?

A savings account starts with \$500. Each subsequent quarter it earns 9% in interest. After a certain number of quarters it has \$838.

$$\overset{A}{t} = 8 \text{ quarters} \quad \overset{B}{t} = 5 \text{ quarters}$$

$$\overset{C}{t} = 6 \text{ quarters} \quad \overset{D}{t} = 7 \text{ quarters}$$