edX

QQ6
QQ6 - Part 1

0 points possible (ungraded)
Choose the graph of y=log(x).
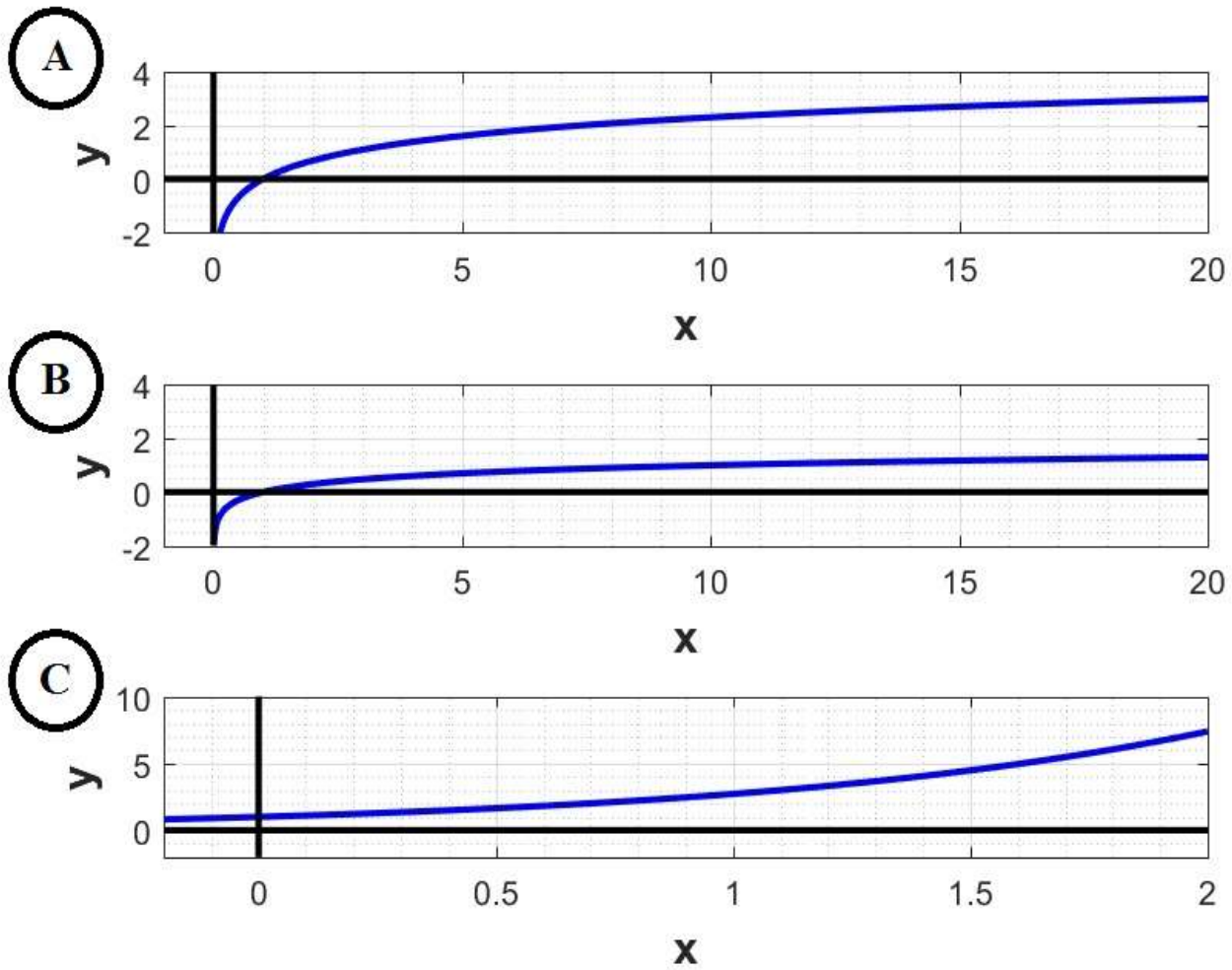
Choose one graph.

○ Graph A

◉ Graph B ✔

○ Graph C

Explanation

To plot this function in <u>Wolfram|Alpha</u>, enter:

plot y=log(x)

To plot this function in <u>Cymath</u>, enter:

graph y=log(x)

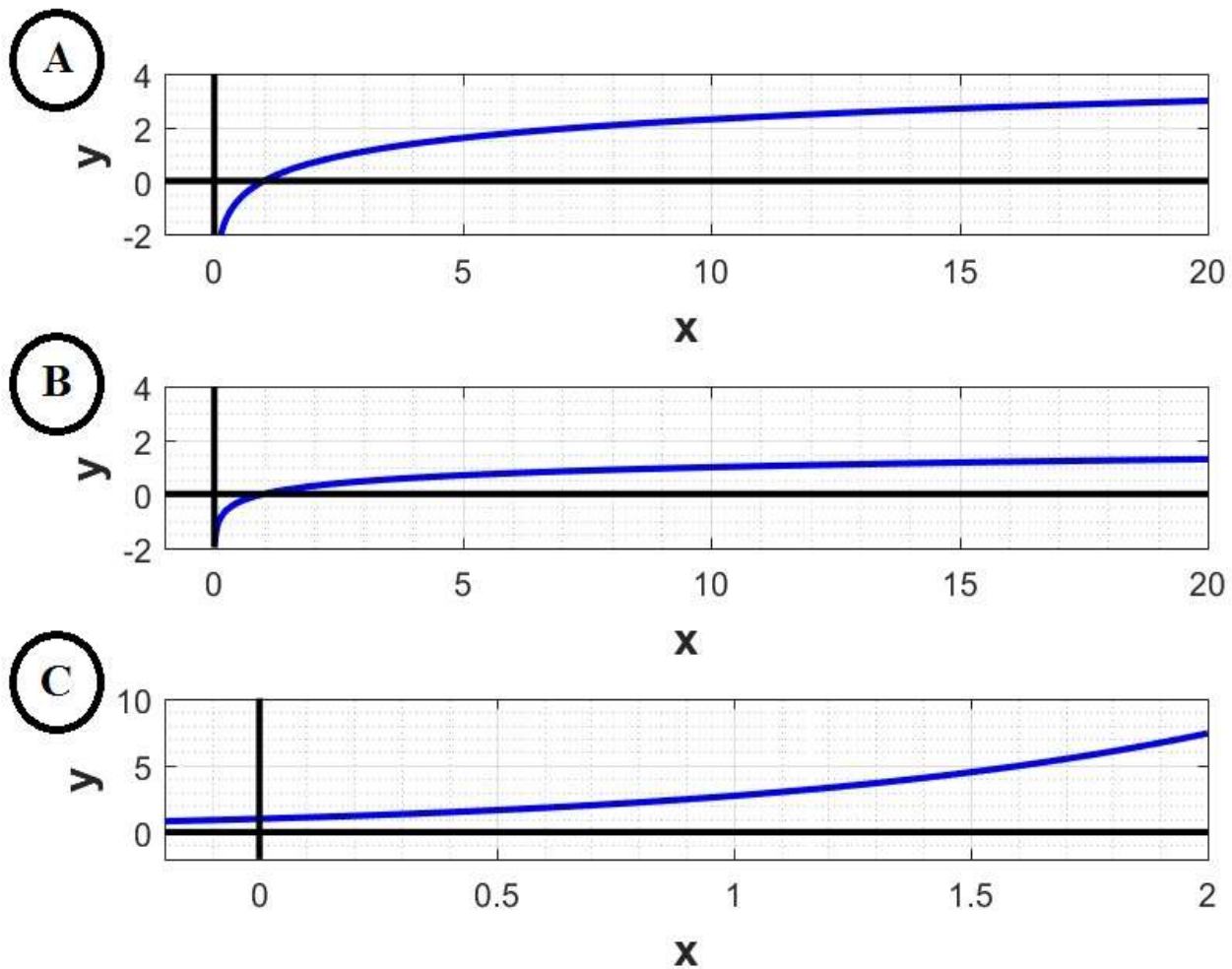| Submit | You have used 1 of 2 attempts |

ⓘ   Answers are displayed within the problem

Part 2

0 points possible (ungraded)
Choose the graph of y=ln(x).

Choose one graph.

○ Graph A ✔

○ Graph B

○ Graph C

Explanation

To plot this function in Wolfram|Alpha, enter:

```
plot y=ln(x)
```

To plot this function in Cymath, enter:

```
graph y=ln(x)
```

Submit   You have used 1 of 2 attempts

ℹ️ Answers are displayed within the problem

Part 3

0 points possible (ungraded)
The graph below is y=ln(x) (where both x and y are real numbers).

Choose the point on the graph where x=2.72.

✔

Explanation
e=2.72 and ln(e)=1

If y=1, what does x equal?

Enter your response below. Round to two decimal places.

| 2.72 | ✔ **Answer:** 2.72

2.72

Explanation
e=2.72 and ln(e)=1

Submit　　You have used 1 of 3 attempts

ⓘ　Answers are displayed within the problem

Part 4

0 points possible (ungraded)
Assume that you have put your money in a bank account with an annual interest rate of 3.5%. According to the approximation rule provided in the lesson, how many years will it take to double the value of your money. Round to two decimal places.

20.15　　　✔ **Answer: 20**

20.15

Explanation

To solve this in Wolfram|Alpha, enter:

```
solve 2=(1.035)^n
```

...and click *Approximate form* for the Real Solution.

To solve this in Cymath, enter:

```
solve 2=(1.035)^n
```

Submit　　You have used 1 of 3 attempts

ⓘ　Answers are displayed within the problem

Part 5

0 points possible (ungraded)

You have invested a sum of money with an interest rate of 8% annually. How many years will it take to triple in value? Round to two decimal places.

| 14.27 | ✔ **Answer:** 14.27 |

14.27

Explanation

We write the expression $3P=P(1+r)^n$, which reduces to $3=(1+r)^n=(1.08)^n$.

To solve this in Wolfram|Alpha, enter:

```
solve 3=(1.08)^n
```

...and click *Approximate form* for the Real Solution.

To solve this in Cymath, enter:

```
solve 3=(1.08)^n
```

To solve this by hand, we can transform this by taking the ln or log of both sides: $\ln(3) = n \ln(1.08)$. Rearranging gives us: $n = \ln(3) / \ln(1.08) = 14.27$

| Submit | You have used 1 of 3 attempts |

ⓘ   Answers are displayed within the problem

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? **Triple Time Interest Rate**

For the triple time problem, in my example it was an annual 8% interest rate, I used the following formula: 3p=pe^(0.08t) ----> 3=e^(0...

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