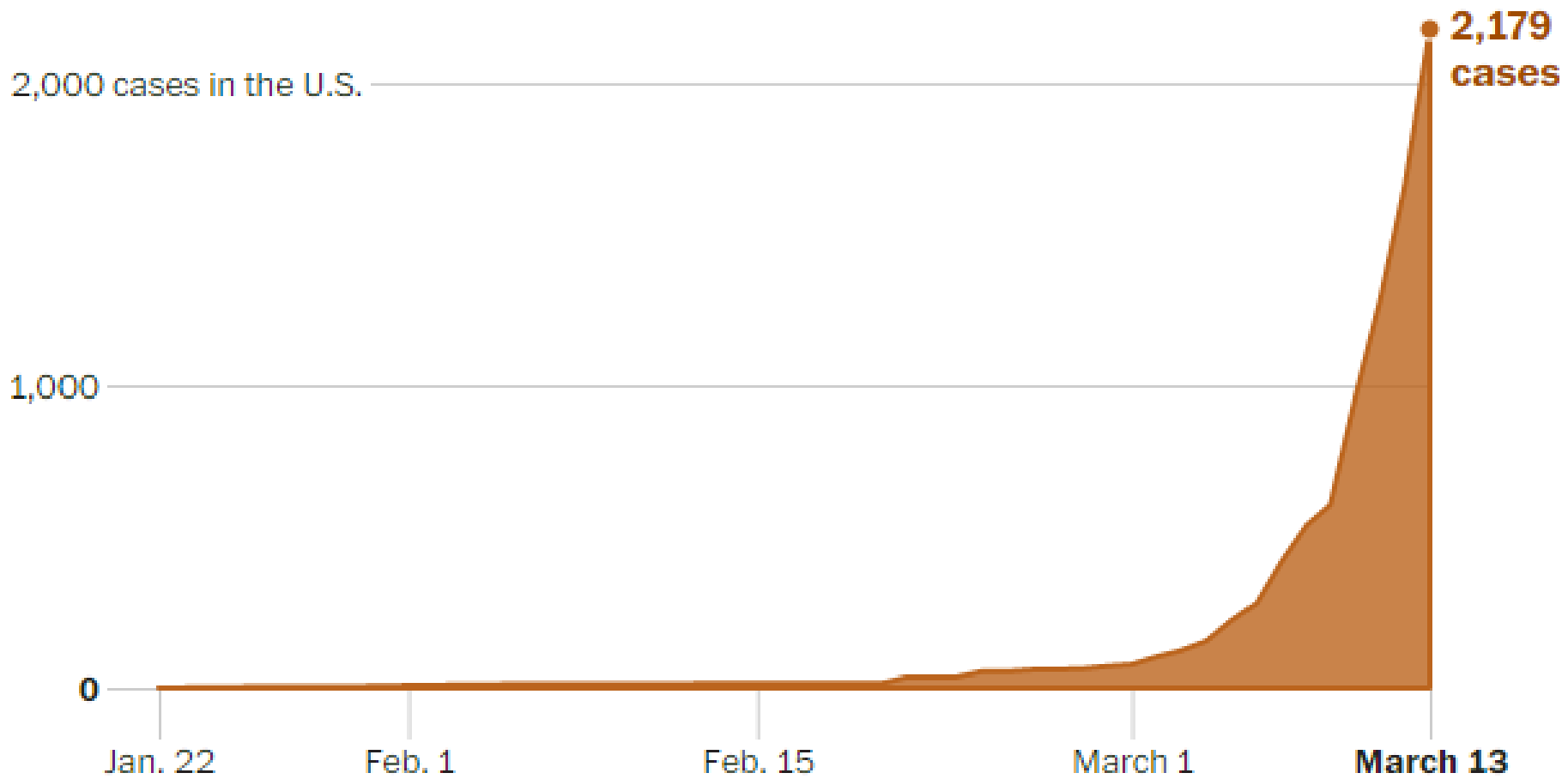




**KEEP
HEALTHY
AND
STAY
SAFE**





2,000 cases in the U.S.

1,000

1

0

Jan. 22

Feb. 1

Feb. 15

March 1

March 13

2,000 cases in the U.S.

1,000

2

0

Jan. 25

Feb. 1

Feb. 15

March 1

March 13



2,000 cases in the U.S.

1,000

0

Jan. 22

Feb. 1

15

Feb. 18

March 1

March 13

2,000 cases in the U.S.

1,000

0

Jan. 22

5

Jan. 30

Feb. 15

March 1

March 13



2,000 cases in the U.S.

1,000

0

Jan. 22

Feb. 1

Feb. 15

March 1

March 13

76

2,000 cases in the U.S.

1,000

0

Jan. 22

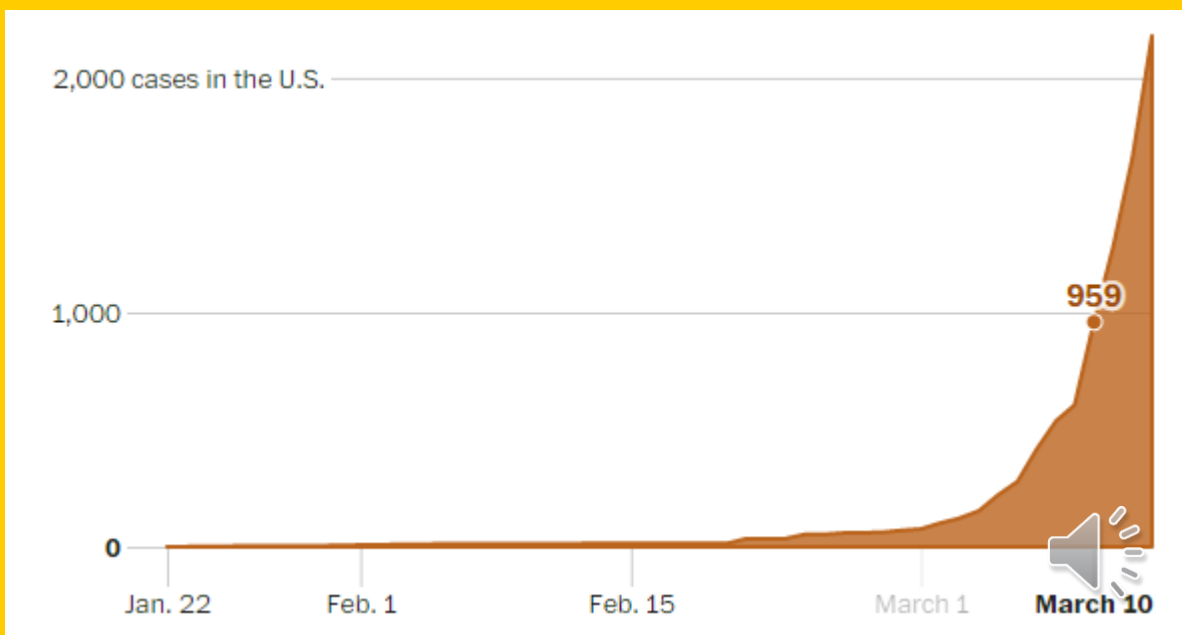
Feb. 1

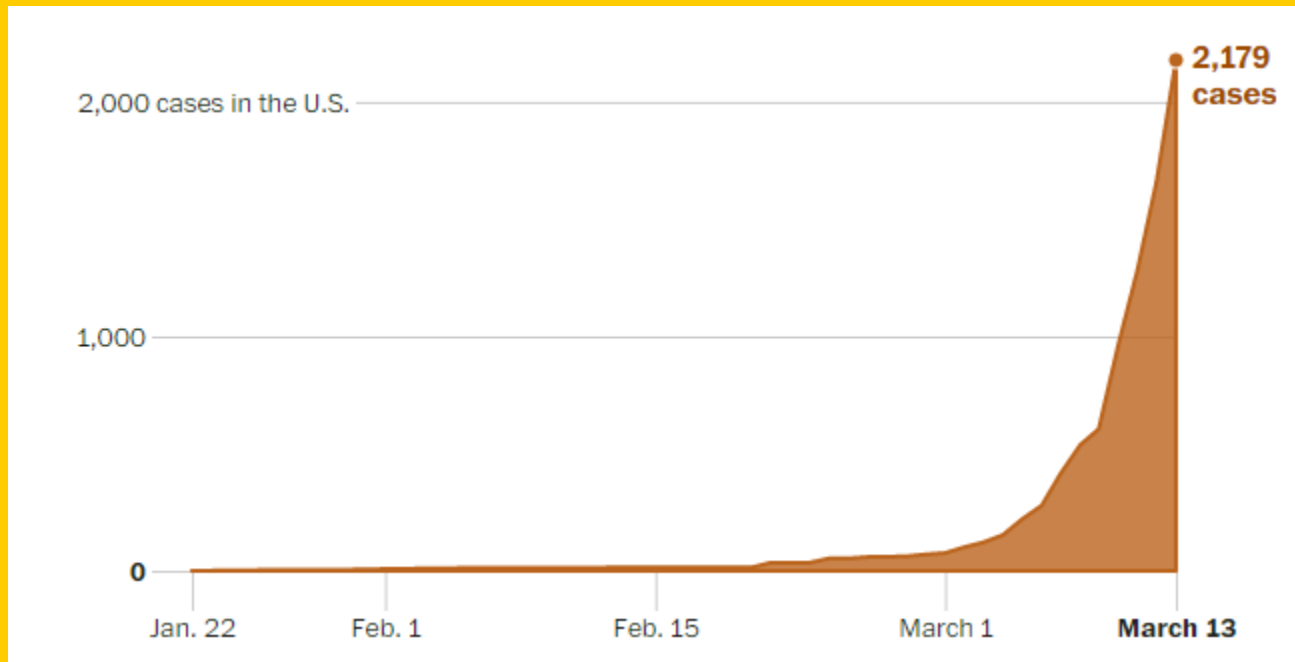
Feb. 15

March 1

March 10

959





US coronavirus cases soar past 8,500 as officials try to head off overwhelming effects

By [Holly Yan](#), [Christina Maxouris](#) and [Steve Almasy](#), CNN

🕒 Updated 8:11 PM ET, Wed March 18, 2020



Exponential Growth

- ◆ Starts slowly
- ◆ Increases at a faster and faster rate over time



Exponential growth is modeled by functions where the variable is an exponent.

$$f(x) = 2^x$$

$$g(x) = 3^{x+1}$$

$$c(x) = .945 \cdot 1.143^x$$



$$f(x) = 2^x$$

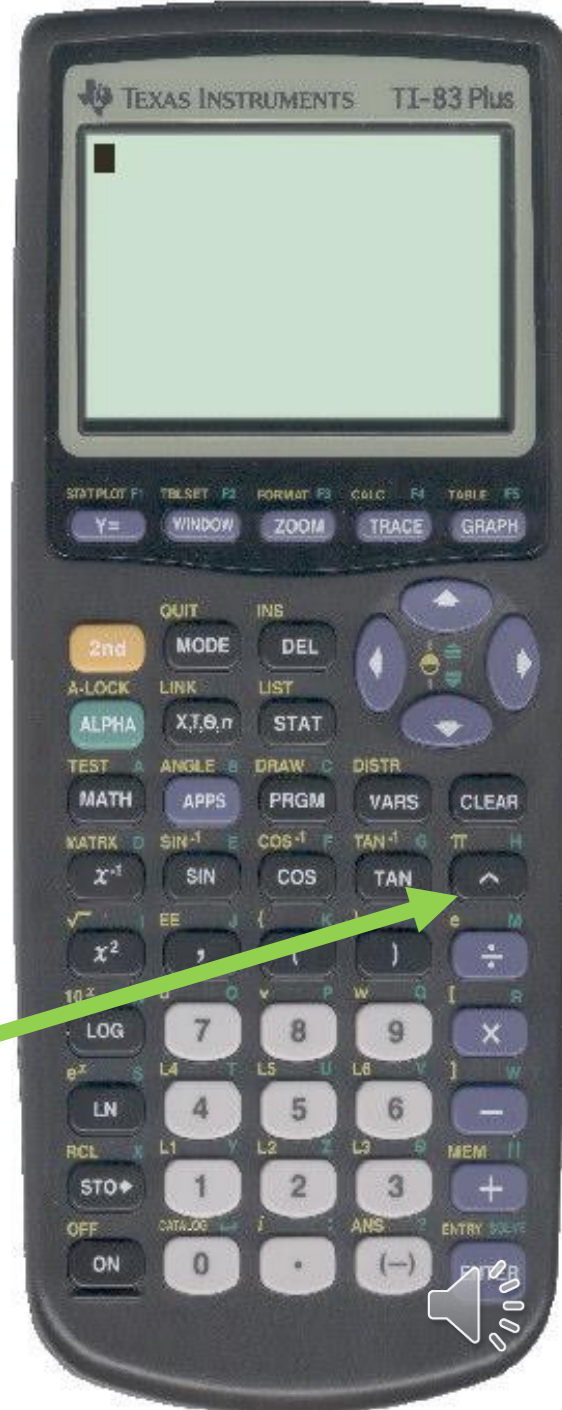
Find

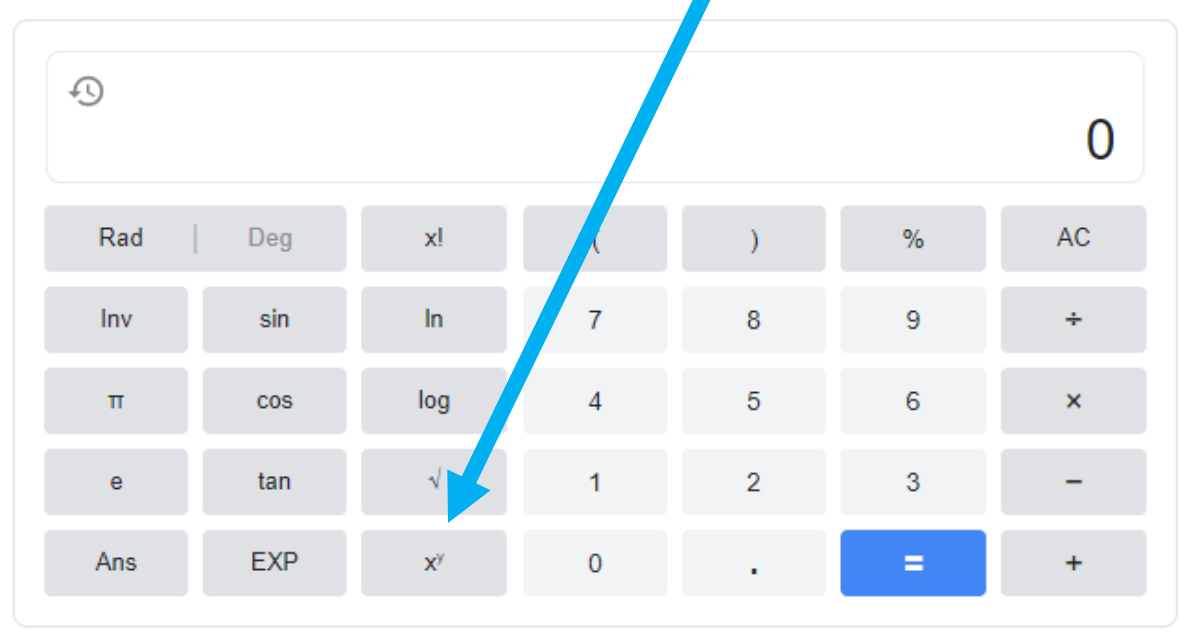
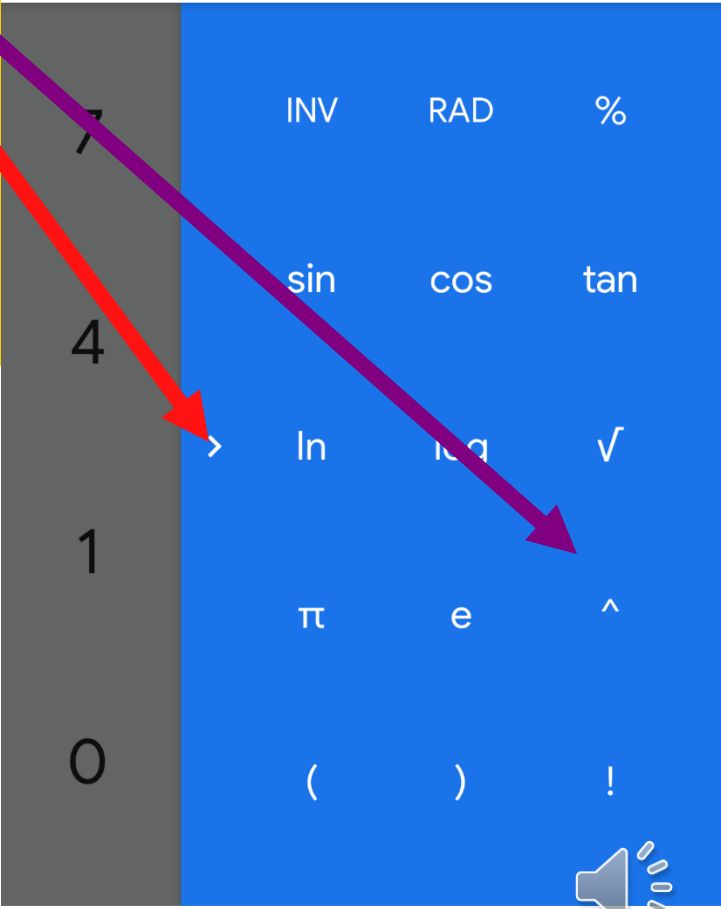
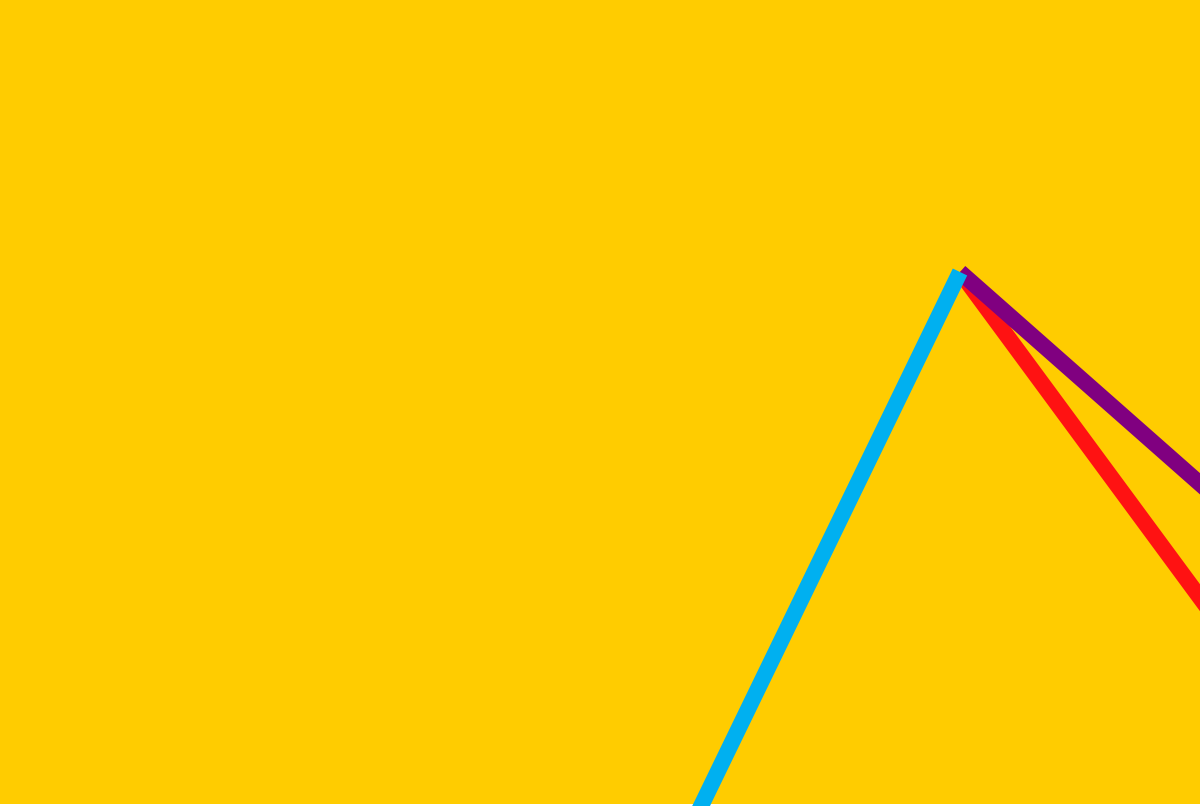
$$f(3)$$

$$f(5)$$

$$f(10)$$

$$f(0)$$





$$f(x) = 2^x$$

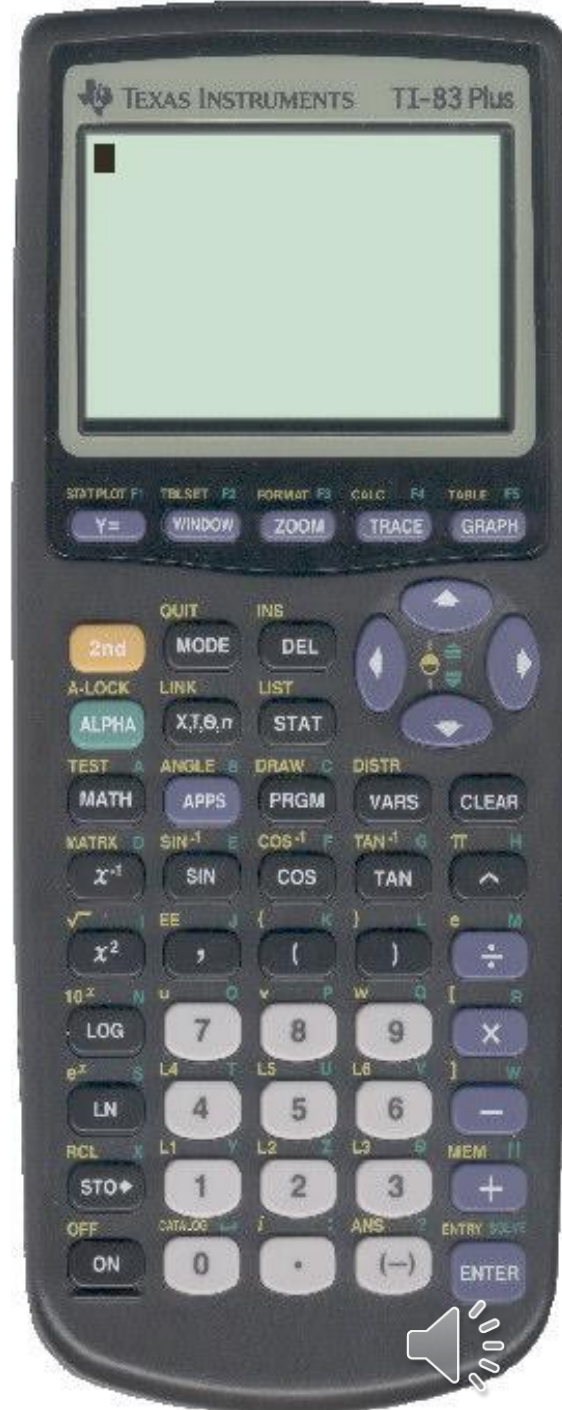
Find

$$f(3)$$

$$f(5)$$

$$f(10)$$

$$f(0)$$



$$f(x) = 2^x$$

Find

$$f(3)$$

$$f(5)$$

$$f(10)$$

$$f(0)$$

2^3	8
2^5	32
2^{10}	1024
■	
2^0	1



$$g(x) = 3^{x+1}$$

Find

$$g(5)$$

$$g(0)$$

$$g(-2)$$



$$g(x) = 3^{x+1}$$

Find

$$g(5)$$

$$g(0)$$

$$g(-2)$$

$3^{(5+1)}$

729

NORMAL FLOAT AUTO REAL RADIAN MP

3^{5+1}

729



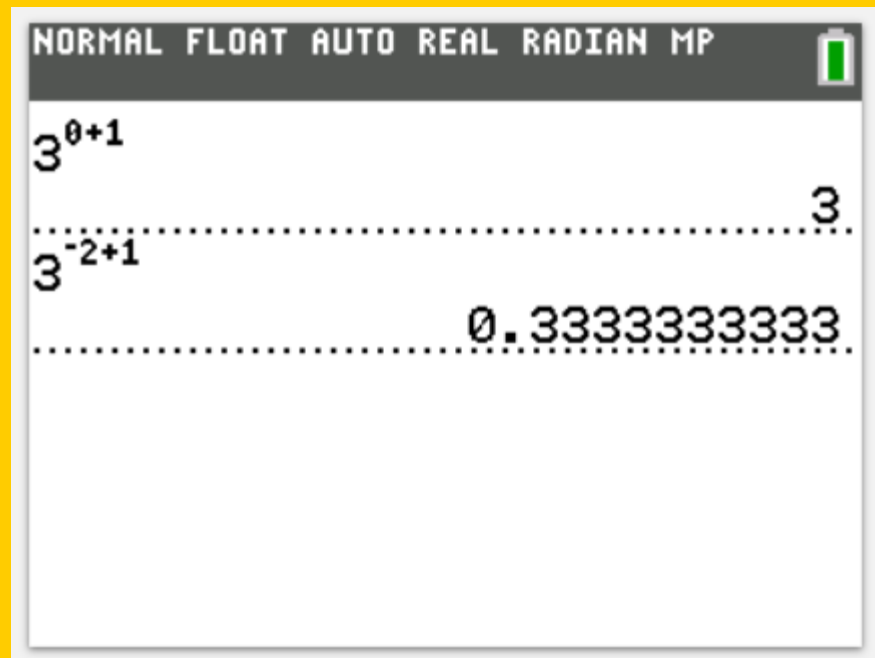
$$g(x) = 3^{x+1}$$

Find

$$g(5)$$

$$g(0)$$

$$g(-2)$$



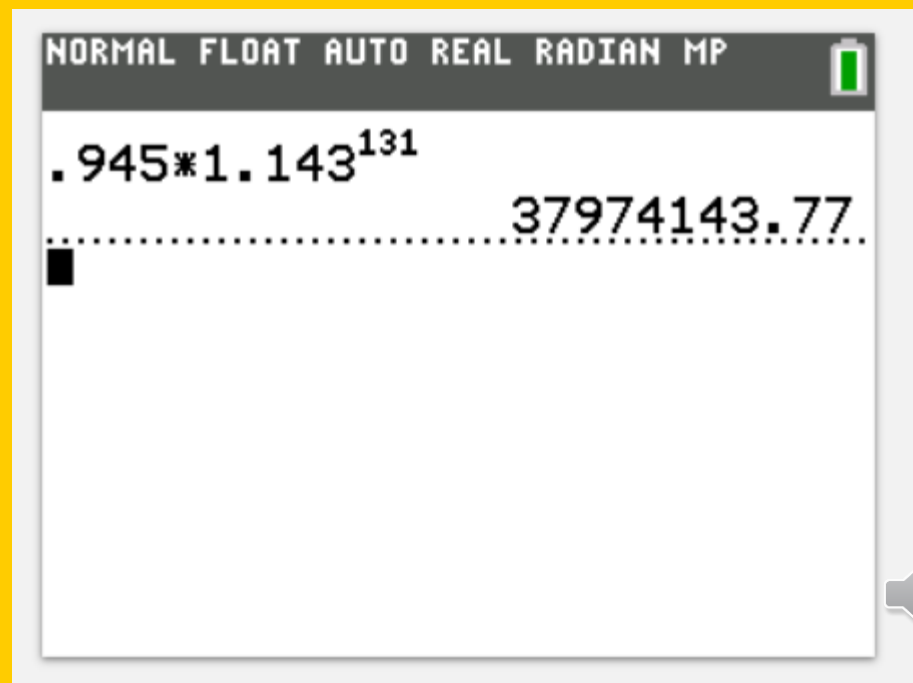
$$c(x) = .945 \cdot 1.143^x$$

How many cases of coronavirus will have been diagnosed in the U.S.A. by May 31 (the 131st day of the outbreak in America)?



$$c(x) = .945 \cdot 1.143^x$$

$$c(131)$$



General Growth Formula

$$A = P(1 + r)^t$$



General Growth Formula

$$A = P(1 + r)^t$$

A = end amount

P = starting amount

r = rate of growth (decimal)

t = time



General Growth Formula

$$A = P(1 + r)^t$$

A = end amount

P = starting amount

r = rate of growth (decimal)

t = time



The nation of Canada has about 37,000,000 people. It is growing at a rate of 1.2% per year. If this growth continues, how many people will Canada have in the year 2030?



$$A = P(1 + r)^t$$

$$A = 37000000(1 + .012)^{10}$$

```
37000000(1+.012)  
^10  
41687595.78
```





A teacher assigns 3 pages of homework the first day of school and doubles the amount of homework each day. How many pages will be assigned on day 21?



$$A = P(1 + r)^t$$

$$A = P(1 + 1)^{20}$$

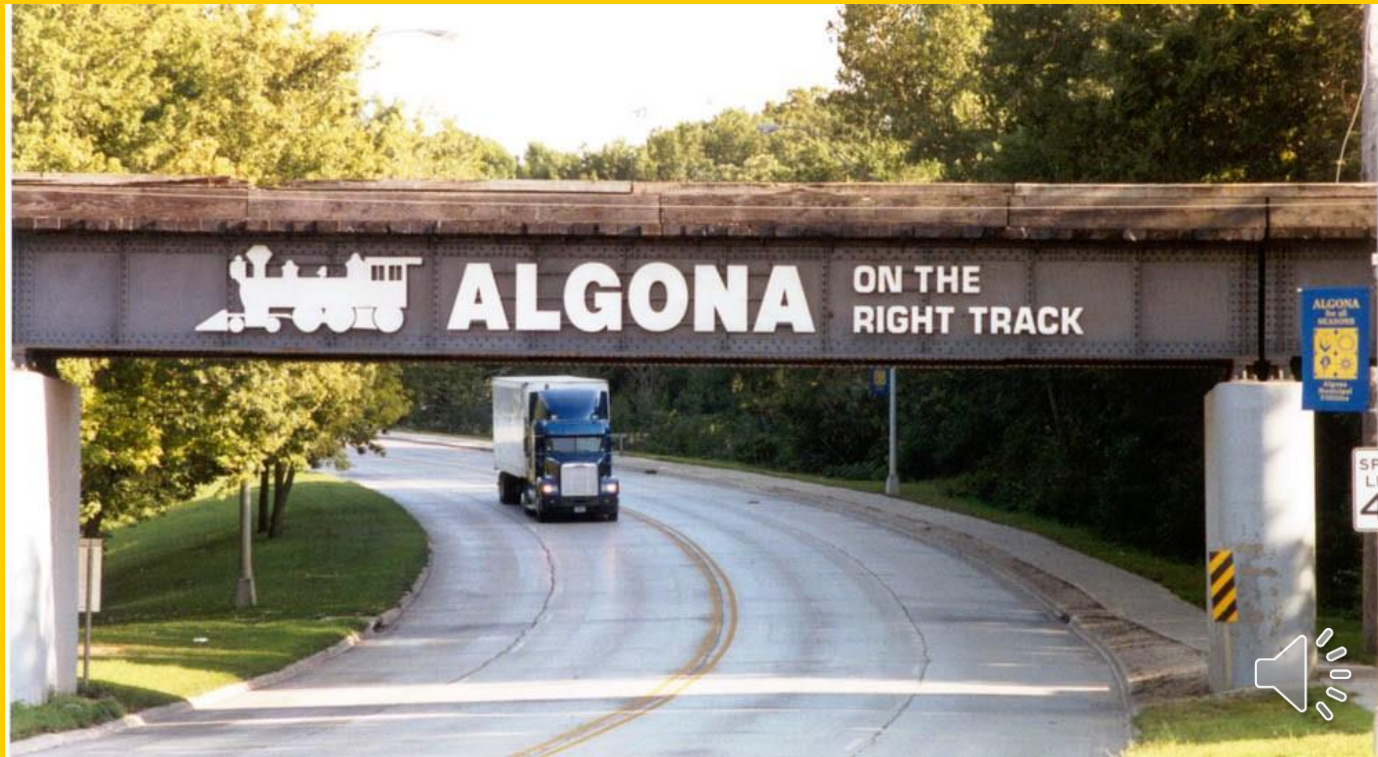
$$A = 3(2)^{20}$$

```
3*2^20
```

```
3145728
```



Algona has about 5000 people. The population is going down by about $\frac{1}{2}\%$ each year. How many people will Algona have in 2045?



$$A = P(1 + r)^t$$

$$A = 5000(1 - .005)^{25}$$

```
5000(1-.005)^25  
4411.101215
```



The city of Ankeny currently has about 65,000 people. Over the last 40 years it has grown at an average of 3.5% per year. How many people did Ankeny have 40 years ago?

BACK IN 1970



World Population
3,700,577,650
USA Population
205 millions



STARS BORN
Mariah Carey
Holly Hunter
Melania Trump
Matt Damon
Queen Latifah

Popular TV Shows

Ironsides
The Flip Wilson Show
Here's Lucy
Marcus Welby, M.D.
Gunsmoke



WHAT THINGS COST

Gallon of Milk.....\$ 1.32
Dozen Eggs.....\$ 0.62
Postage stamp.....\$ 0.06
Average salary.....\$ 8,965
Gallon of gas.....\$ 0.36
Average new car.....\$ 3,543
Average house.....\$ 26,650

HISTORICAL EVENTS

The North Tower of the World Trade Center is topped out at 1,368 feet, making it the tallest building in the world.
The first Earth Day proclamation is issued by San Francisco Mayor Joseph Alioto.
The United States gets its first female generals: Anna Mae Hays and Elizabeth P. Hoisington.
The Chevrolet Vega and the Ford Pinto are introduced.

Popular Songs

Bridge over Troubled Water
Simon & Garfunkel
The Carpenters
(They Long to Be) Close to You
American Woman
The Guess Who
Raindrops Keep Fallin' on My Head
B.J. Thomas
War
Edwin Starr

Sports Highlights

MLB World Series
Baltimore Orioles
Superbowl
Kansas City Chiefs
NBA Champions
New York Knicks
Stanley Cup Champs
Boston Bruins

Oscar Winners

ACTOR
True Grit
John Wayne
ACTRESS
Maggie Smith
The Prime of Miss Jean Brodie
DIRECTING
John Schlesinger
BEST PICTURE
Midnight Cowboy



$$A = P(1 + r)^t$$

$$65000 = P(1 + .035)^{40}$$



$$A = P(1 + r)^t$$

$$65000 = P(1 + .035)^{40}$$

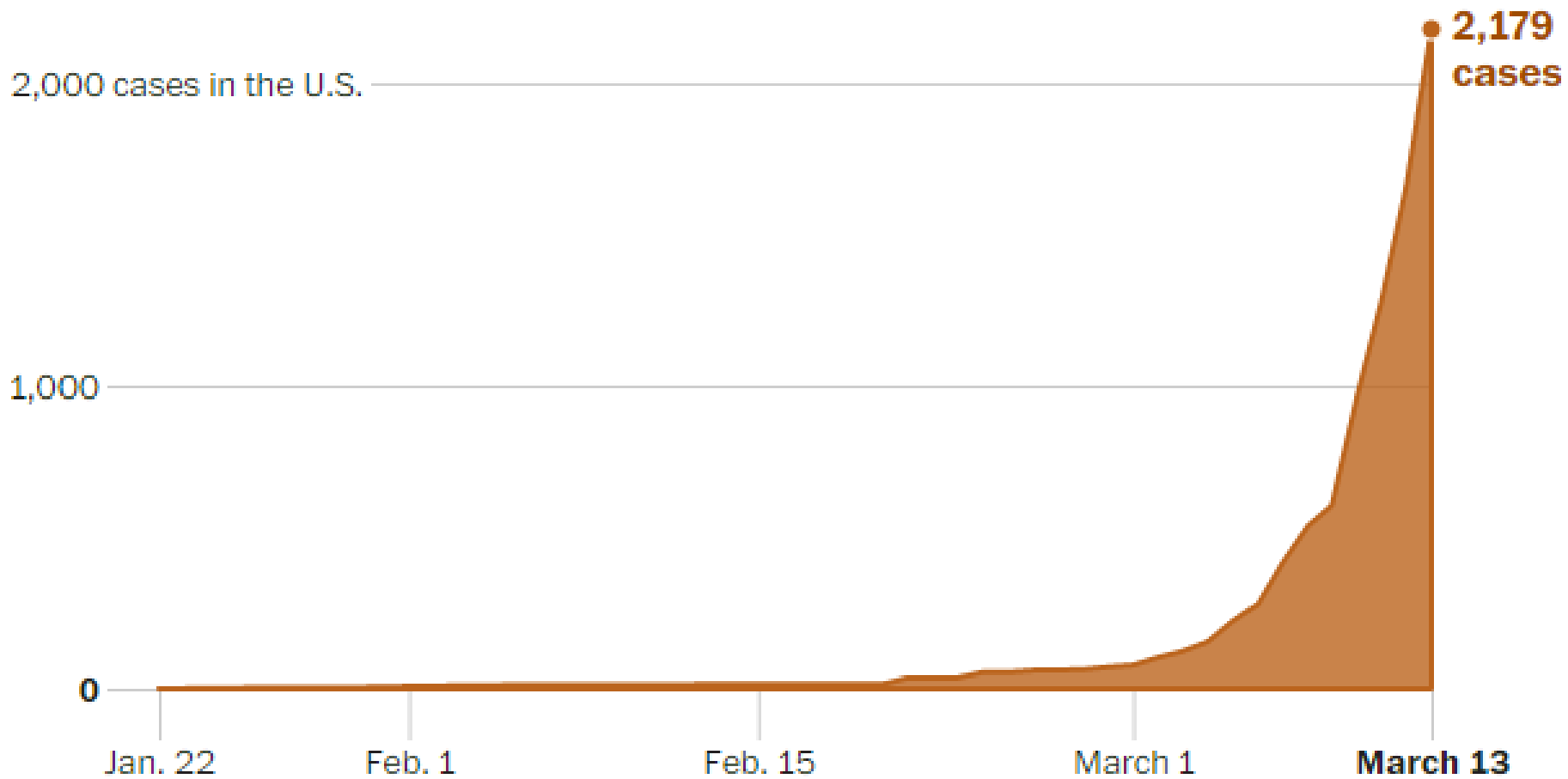
```
(1+.035)^40  
3.959259721  
65000/Ans  
16417.21043  
■
```

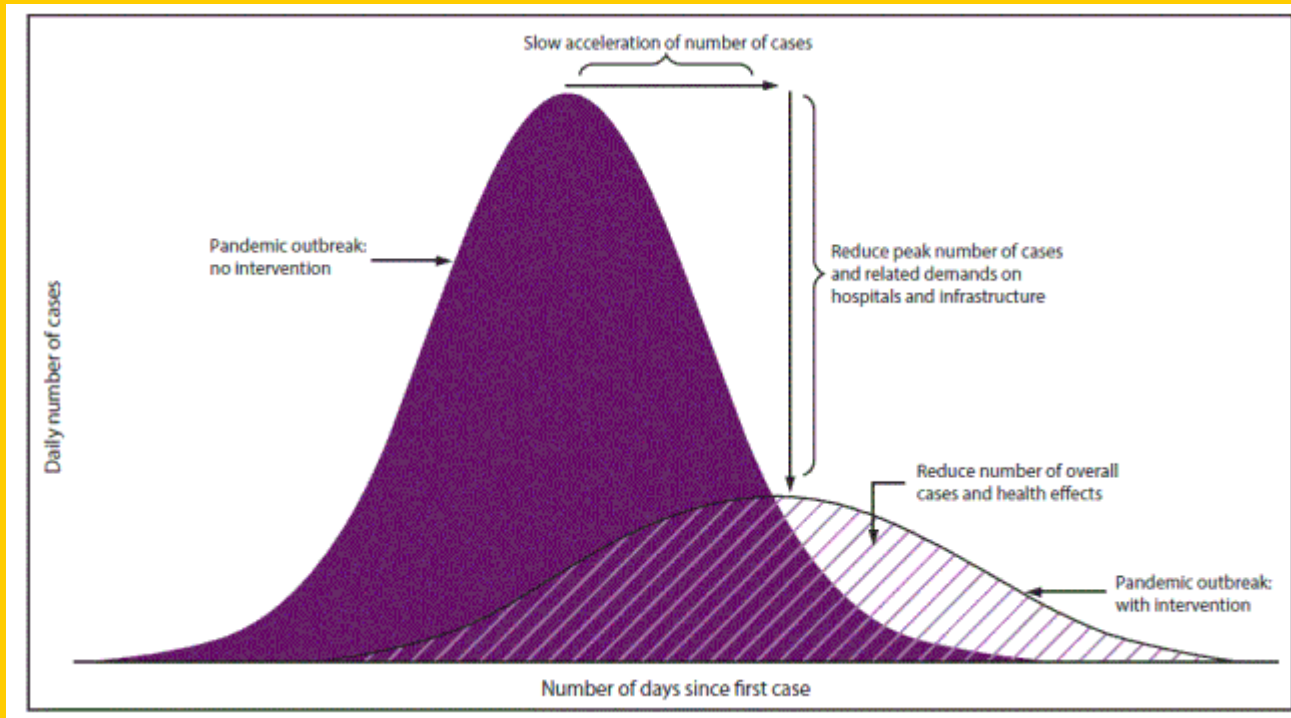


$$A = P(1 + r)^t$$

$$65000 = P(1 + .035)^{40}$$







Flattening the Curve





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