

### Daredevil

Greyson completes a dive from a cliff 75-feet above a river. It takes him only 1.5 seconds to hit the water and then another 0.5 second to descend 10 feet into the river.

### Something's Fishy

Candice is a building manager for the Crowley Enterprise office building. One of her responsibilities is cleaning the office building's 200-gallon aquarium. For cleaning, she must remove the fish from the aquarium and drain the water. The water drains at a constant rate of 10 gallons per minute.

### Smart Phone, but Is It a Smart Deal?

You have your eye on an upgraded smart phone. However, you currently do not have the money to purchase it. Your cousin will provide the funding, as long as you pay him back with interest. He tells you that you only need to pay \$1 in interest initially, and then the interest will double each week after that. You consider his offer and wonder if this *really* is a good deal.

### Can't Wait to Hit the Slopes!

Andrew loves skiing—he just hates the ski lift. To make matters worse, the ski lift has been acting up today. Andrew is using the GPS on his phone to track the ski lift's progress as it travels up the mountain. It moves at a steady rate of 400 feet per minute until it stops suddenly. Andrew calls his friends to tell them that he is stuck. They talk on the phone for 10 minutes until finally the ski lift begins moving again.

### It's Magic

The Amazing Aloysius is practicing one of his tricks. As part of this trick, he cuts a rope into many pieces and then magically puts the pieces of rope back together. He begins the trick with a 20-foot rope and then cuts it in half. He then takes one of the halves and cuts that piece in half. He repeats this process until he is left with a piece so small he can no longer cut it.

### Baton Twirling

Jill is a drum major for the Altadena High School marching band. For the finale of the halftime performance, Jill tosses her baton in the air so that it reaches a maximum height of 22 feet. This gives her 2 seconds to twirl around twice and catch the baton when it comes back down.

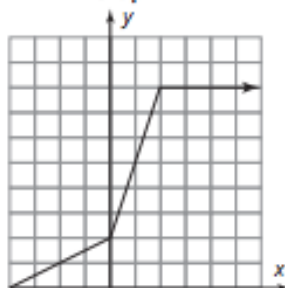
### Cold Weather

The number of guests at a ski resort on any given day is related to the day's high temperature. If the high temperature is  $-20^{\circ}\text{F}$  or below, no one comes to the resort. As the temperature increases, so does the number of guests. Once the temperature reaches  $0^{\circ}\text{F}$  and increases through the single digits, the number of guests soars. If the temperature is  $10^{\circ}\text{F}$  or higher, the ski resort is at full capacity with 400 guests.

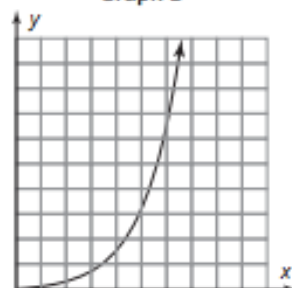
### Jelly Bean Challenge

Mr. Wright judges the annual Jelly Bean Challenge at the summer fair. Every year, he encourages the citizens in his town to guess the number of jelly beans in a jar. He records all the possible guesses and the number of jelly beans that each guess was off by.

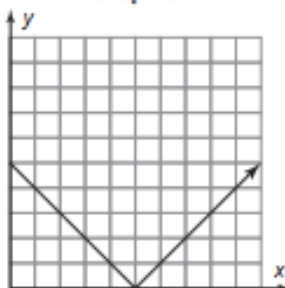
Graph A



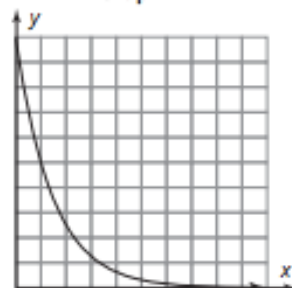
Graph B



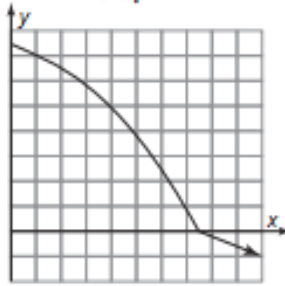
Graph C



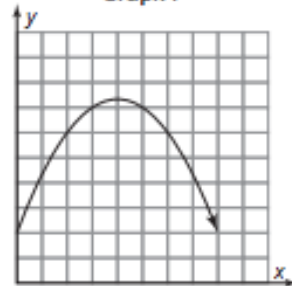
Graph D



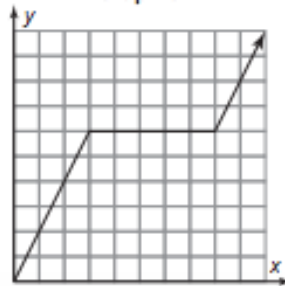
Graph E



Graph F



Graph G



Graph H

