

Name: _____

1. (40 points) This question has two parts.

(a) (20 points) Write a function `divisors` that takes in a positive integer and returns a list of all integers that divide that integer. For example,

your function goes here, but write it below

```
print(divisors(9))
print(divisors(7))
print(divisors(24))
```

should output

```
[1, 3, 9]
```

```
[1, 7]
```

```
[1, 2, 3, 4, 6, 8, 12, 24]
```

(b) (20 points) Write a function `is_prime` that takes in a positive integer and returns `True` if the integer is prime and `False` otherwise. (Recall that a prime number is a number that is a positive integer **greater than 1** that is divisible only by 1 and itself.) Hint: you can call the `divisors` function from the previous question.

For example,

your divisor function and your `is_prime` function go here,

but write your `is_prime` function below

```
print(is_prime(2))
print(is_prime(10))
print(is_prime(14033))
```

should output

```
True
```

```
False
```

```
True
```

2. (30 points) Fill in the missing Python code to produce the following plot.

```
import matplotlib.pyplot as plt
```

```
years = [2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018] # bridger bowl year  
total_snowfall = [253, 304, 388, 265, 283, 209, 194, 271, 177] # inches
```

```
# your code here
```

