

## Possible Solutions

The number of calories consumed from a fun size piece of candy is directly proportional to the number of candies eaten. If 3 candies contain 24 calories, how many candies would you have to eat to consume 960 calories?

### Possible Solution 1

- Since direct variation represents a proportional relationship, a proportion can be set up and solved.

$$\frac{\text{candies}}{\text{calories}} = \frac{\text{candies}}{\text{calories}}$$

$$\frac{3}{24} = \frac{x}{960}$$

$$24x = 3 \times 960$$

$$24x = 2880$$

$$x = 120$$

- The solution is 120 candies.

### Possible Solution 2

- Create a table to show the pattern looking for calories per 1 candy.

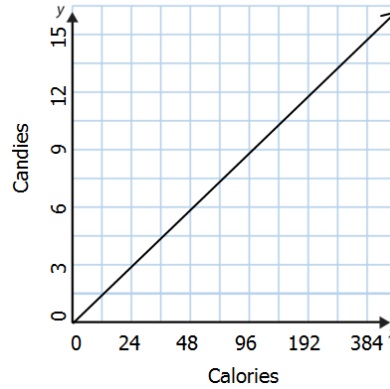
	Calories	Candies	
+24	24	3	+3
+24	48	6	+3
	72	9	

- $\frac{\text{Calories}}{\text{Candies}} = \frac{24}{3} = 8$ , so there are 8 calories for each piece of candy. Therefore,  $\frac{960}{8} = 120$ .

- The solution is 120 candies.

### Possible Solution 3

- Create a graph to find the constant of proportionality.



- The direct variation equation is  $y = kx$ . In order to find  $k$ , divide  $y$ (calories) by  $x$ (candies) to get 8 calories per 1 candy.
- The solution is 120 candies.