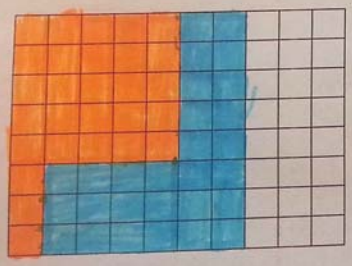
Percent of Change

Many animals hibernate during the winter to survive the harsh conditions and food shortages. While they sleep, their body temperatures drop, their breathing rates decrease, and their heart rates slow. They may even appear to be dead. Percent can be used to describe this kind of change. Percent change is the ratio of the amount of change to the original amount. When finding a percent of change, there are two numbers that will be given; an original value and a new value.

$$\text{percent change} = \frac{\text{amount of change}}{\text{original amount}}$$

Percent increase describes how much the original amount increases. If the new value is larger than the original value, then we have percent increase. Percent decrease describes how much the original amount decreases. If the new value is less than the original value, then we have percent decrease.

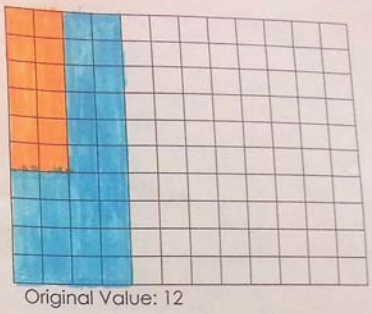


Original Value: 28

New Value: 56

The amount of change between the two values is 28.

The percent of change is 100 %. I can see this in the model because 28 is 100% and it adds another 28 so it

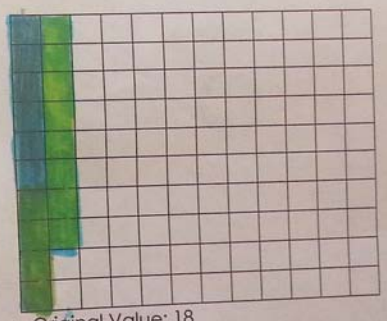


Original Value: 12

New Value: 40

The amount of change between the two values is 28.

The percent of change is _____%. I can see this in the model because 28 is added to it.



Original Value: 18

New Value: 6

The amount of change between the two values is 12.

The percent of change is 33 %. I can see this in the model because 12 is taken away

Percent of Change

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$$\text{percent change} = \frac{\text{amount of change}}{\text{original amount}}$$

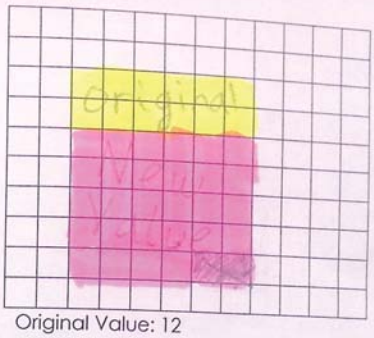
Percent increase describes how much the original amount increases. If the new value is larger than the original value, then we have percent increase. Percent decrease describes how much the original amount decreases. If the new value is less than the original value, then we have percent decrease.

Original Value: 28

New Value: 56

The amount of change between the two values is 28.

The percent of change is 100 %. I can see this in the model because the original is 28 and you add 28 to get 56.

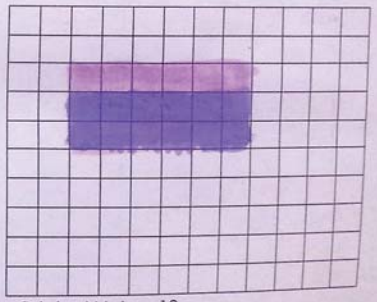


Original Value: 12

New Value: 40

The amount of change between the two values is 28.

The percent of change is 233 %. I can see this in the model because 28 ÷ 12 x 100 is 233%.



Original Value: 18

New Value: 6

The amount of change between the two values is 12.

The percent of change is 67 %. I can see this in the model because because I took away 2/3 and 2/3 is equal to 67%.

Percent of Change

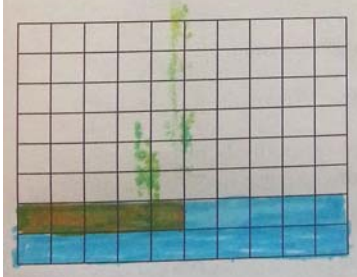
A figure has an area of 10 square units. You increase its area to 15 square units. BY what percent does the area of the figure change?

1) Draw a figure that has an area of 10 square units. Let each square represent one unit. Shade the figure.

2) Add squares to the figure so that the area of the figure becomes 15 square units. Shade the added squares a different color.

The added squares are about ___50___% of the original squares because there are ___5___ added squares out of ___10___ original squares.

A figure has an area of 20 square units. The area is reduced to 15 square units. By what percent does the area of the figure change?



1) Draw a figure that has an area of 20 square units. Let each square represent one unit. Shade the figure.

2) Remove squares from the figure to make if 15 units by shading over them with a different color. Shade the ~~added~~ removed squares a different color.

The removed squares are about ___25___% of the original squares because there are ___5___ removed squares out of ___20___ original squares.

Percent of Change

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$$\text{percent change} = \frac{\text{amount of change}}{\text{original amount}}$$

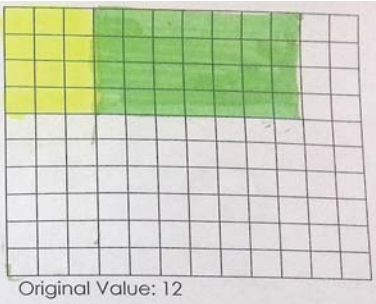
Percent increase describes how much the original amount increases. If the new value is larger than the original value, then we have percent increase. Percent decrease describes how much the original amount decreases. If the new value is less than the original value, then we have percent decrease.

Original Value: 28

New Value: 56

The amount of change between the two values is 28.

The percent of change is 100 %. I can see this in the model because ~~because~~ it's twice as much.

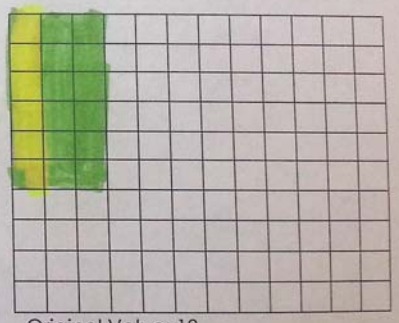


Original Value: 12

New Value: 40

The amount of change between the two values is 28.

The percent of change is 233 %. I can see this in the model because you add 12 twice and then you add 4



Original Value: 18

New Value: 6

The amount of change between the two values is 12.

The percent of change is 66 %. I can see this in the model because it when down 2 not twice

Percent of Change

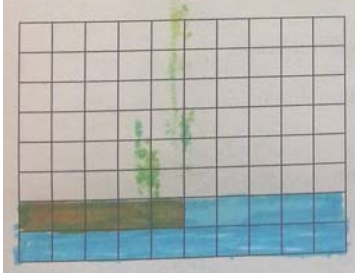
A figure has an area of 10 square units. You increase its area to 15 square units. BY what percent does the area of the figure change?

1) Draw a figure that has an area of 10 square units. Let each square represent one unit. Shade the figure.

2) Add squares to the figure so that the area of the figure becomes 15 square units. Shade the added squares a different color.

The added squares are about 50 % of the original squares because there are 5 added squares out of 10 original squares.

A figure has an area of 20 square units. The area is reduced to 15 square units. By what percent does the area of the figure change?



1) Draw a figure that has an area of 20 square units. Let each square represent one unit. Shade the figure.

2) Remove squares from the figure to make if 15 units by shading over them with a different color. Shade the ~~added~~ removed squares a different color.

The removed squares are about 25 % of the original squares because there are 5 removed squares out of 20 original squares.