## Percent and Proportional Relationships

In this 18-lesson module, students deepen their understanding of ratios and proportional relationships as they explore a variety of percent problems. They convert between fractions, decimals, and percents to further develop a conceptual understanding of percent and use algebraic expressions, equations and other models such as tape diagrams as tnms as tnm

What is the whole unit in each scenario?

*The number or quantity that another number or quantity **is being compared to** is called the **whole**.*

Solution:

Scenario	Whole Unit
15 is what percent of 90?	
What number is 10% of	
90% of a number is 180.	
A bag of candy contains 300 piece and 25% of the pieces in the bag are red.	
Seventy percent (70%) of the students earned a B on the test.	
The 20 girls	
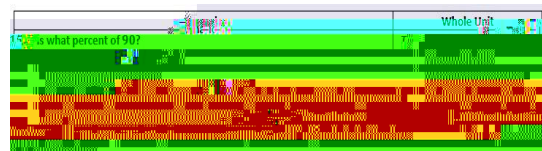
Part of a Whole as a Percent

Brad put   crickets in his pet lizard's cage. After one day, Brad's lizard had eaten   % of the crickets he had put in the cage. By the end of the next day, the lizard had eaten   % of the remaining crickets. How many crickets were left in the cage at the end of the second day?
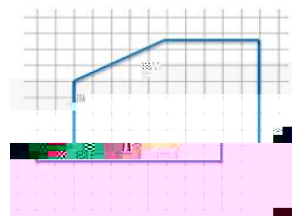
Solution:

Day 1:

$n = 0.$

Day 2:

Consider this: If you tried this problem and got an answer of 6 1/2 crickets, does your answer make sense? Explain.

Create a scale drawing of the picture to the right using a scale factor of   %. Write three equations that show how you determined the lengths of three different parts of the resulting picture.

For a review of scale drawings, refer to Module 1 topic D.

Picture

Solution:

Scale Drawing:

Scale Factor:

$60\% = \dfrac{60}{} = \dfrac{3}{}$