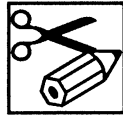


Three Bean Salads

Leader



Practice working with ratios and proportions, important concepts for later success in algebra.



You will need:

- Three types of dry beans:
 - Red beans, Lima beans, Black-eyed peas(Use a different type of bean as a substitute for any type you do not have.)
- Small cups or plates to hold small portions of beans



Do this:

- All three types of beans go into each salad.
- The student should be encouraged to guess and adjust as he or she uses the beans to solve the problem.
- Read the recipe for each salad carefully then determine how many of each of the three types of beans are needed to make the salad.

Relevant Reminder

Ratio and Proportion

- Often it is useful to show the relationship between two quantities like the number of girls and the number of boys in a classroom, or the length of a window and the width of that same window.
- If there are 10 boys and 12 girls in a class, the ratio of boys to girls is:

$$\frac{10}{12} \text{ or } \frac{5}{6} \text{ or } 5 \text{ to } 6$$

or

$$5:6$$

- We use proportions to show that two ratios are equal.

$$\frac{10}{12} = \frac{5}{6} \qquad 10:12 = 5:6$$



Stenmark, J., V. Thompson, and R. Cossey, R. *Family Math*. Regents, University of CA, 1986:134–135.

Three Bean Salads

Student _____



Do this:

Each salad contains Red beans, Lima beans, and Black-eyed peas. All three types of beans go into each salad! Use real beans to determine how many of each of the three types of beans are needed for the following eight salads.

Salad #1

Two Lima beans
Twice as many Red beans as Lima beans
Ten beans in all

Salad #2

Four Red beans
1/2 as many Black-eyed peas as Red beans
Ten beans in all

Salad #3

Lima beans make up 1/2 of this salad
The salad has exactly two Red beans
The number of Lima beans is double the number of Red beans

Salad #4

The same number of Red beans as Lima beans
Three more Black-eyes than Red beans
A total of eighteen beans

Salad #5

1/2 of the beans are Red
Lima beans make up 1/4 of the salad
Twelve beans in all

Salad #6

It has one more Lima bean than Red beans
It has one more Red bean than Black-eyes
A total of 12 beans

Salad #7

In this salad there are:
Three times as many Red beans as Black-eyes
One more Lima bean than Red beans
Eight beans in all

Salad #8

No more than twenty beans for this salad
An equal number of Red beans and Black-eyes
Five more Lima beans than Red beans



1. Can you make up a different salad?
2. Write instructions for someone else to make your salad.



WHAT I FOUND