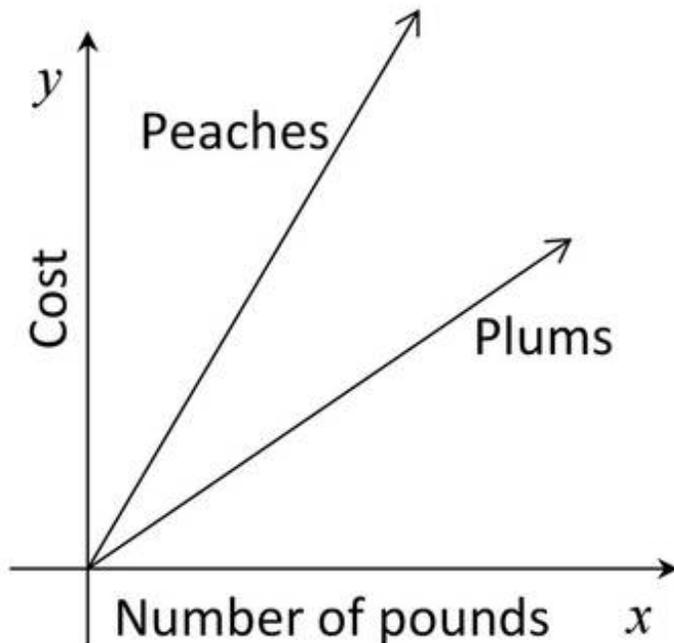# 8.EE Peaches and Plums

Task

The graphs below show the cost y of buying x pounds of fruit. One graph shows the cost of buying x pounds of peaches, and the other shows the cost of buying x pounds of plums.

a. Which kind of fruit costs more per pound? Explain.

b. Bananas cost less per pound than peaches or plums. Draw a line alongside the other graphs that might represent the cost y of buying x pounds of bananas.

IM Commentary

This task allows students to reason about the relative costs per pound of the two fruits without actually knowing what the costs are. Students who find this difficult may add a scale to the graph and reason about the meanings of the ordered pairs. Comparing the two approaches in a class discussion can be a profitable way to help students make sense of slope.

Solutions

Solution: Slope as Unit Rate

The graph that represents the cost of x pounds of peaches is steeper, so it must have a larger slope. The slope can be interpreted as the unit rate; in this case it tells you the cost of a single pound of fruit.

Since the slope for the peach graph is greater than the slope of the plum graph, the cost of a pound of peaches is greater than the cost of a pound of plums.

For b, students should realize that the cost per pound of bananas will be represented by a slope that is less than either of the other two, and draw a line through the origin labeled "Bananas" and lying below both of the other graphs.

Solution: Adding a scale to the graph

Students who prefer to work with specific numbers can approach this problem by sketching in a scale on the x-axis and y-axis. For example, if they decided that a pound of peaches might cost a dollar, then they might plot the point (1,1) on the line labeled "Peaches", then fill out the rest of the scale accordingly. They could then read off the cost of a pound of plums and see that it is less than for peaches.

For the second question, they could choose any price per pound b for bananas that is less than the one they read off for plums, and then draw a line from the origin through the point (b, 1), and label it "Bananas".