

Enrichment 5-5

Direct Variation in Recipes

The following ingredients are required to prepare the filling for an apple pie that will yield eight portions:

- | | |
|-----------------------------|---------------------------------|
| 6 cups apples | 1 tablespoon cornstarch |
| $\frac{1}{2}$ cup sugar | $\frac{1}{4}$ teaspoon cinnamon |
| $\frac{1}{4}$ teaspoon salt | |

Assuming that there is a direct variation between the amount of the ingredients used and the number of pies one can bake, use the recipe above to calculate the following:

- the amount of sugar required to bake three pies
- the amount of apples required to bake five pies
- the number of pies 2 tsp of cinnamon can be used for
- the amount of cornstarch required to bake pies for 30 people
- the number of pies for which 60 c of apples can be used and the amounts of the other ingredients required to bake that number of pies.

_____ pies, _____ sugar, _____ salt,
 _____ cornstarch, _____ cinnamon

Determine whether the following ratios are direct variations:

- $\frac{4 \text{ servings}}{1 \text{ lb pasta}} ; \frac{12 \text{ servings}}{3 \text{ lb pasta}}$
- $\frac{2 \text{ eggs}}{1 \text{ casserole}} ; \frac{7 \text{ eggs}}{3 \text{ casseroles}}$
- $\frac{4 \text{ pt soup}}{3 \text{ c potatoes}} ; \frac{6 \text{ pt soup}}{4.5 \text{ c potatoes}}$
- $\frac{4 \text{ frozen yogurts}}{8 \text{ cherries}} ; \frac{1 \text{ frozen yogurt}}{2 \text{ cherries}}$

The following ingredients are required to prepare baked macaroni and cheese that will yield six servings.

- | | |
|--------------------------|-------------------------------|
| 8 oz macaroni | $\frac{1}{8}$ teaspoon pepper |
| $\frac{1}{4}$ cup butter | 2 cups milk |
| $\frac{1}{4}$ cup flour | 8 oz cheddar cheese |
| 1 teaspoon salt | |

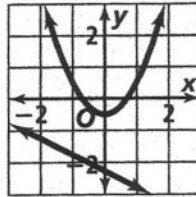
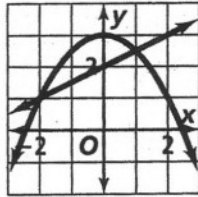
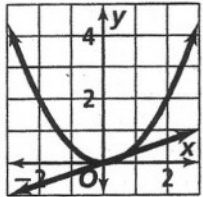
- Twenty-four servings are needed for a buffet dinner. Write the amounts of each ingredient required for the baked macaroni and cheese.

_____ macaroni, _____ butter, _____ flour, _____ salt,
 _____ pepper, _____ milk, _____ cheddar cheese

Enrichment 7-1

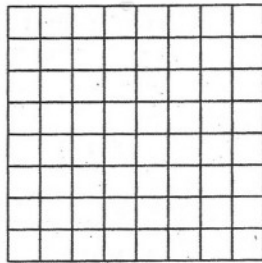
Lines and Curves

Just as the equations of two lines can be graphed, so can the equations of a curve and a line. The graphs below show intersections of one, two, and no points.

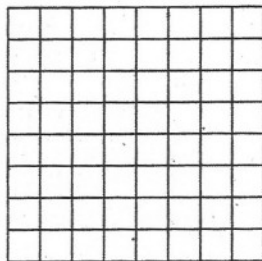


Graph each pair of equations by plotting points. Then describe the intersection.

1. $y = x^2$
 $y = x - 1$



2. $y = -2x^2$
 $y = x - 3$



3. $y = -2x$
 $x = y^2$

