Name

2-7A **Lesson Master**

USES Objective H

1. A baseball coach uses a machine to send fly balls to outfielders. The speed of the balls leaving the machine and the distance the balls travel is given in the table below.
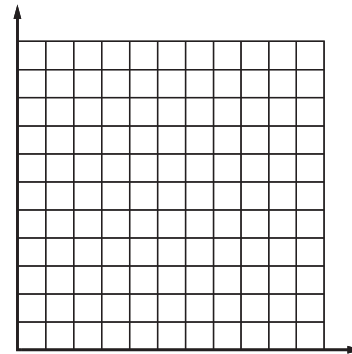
Speed (ft/sec)	40	50	60	70	80	90	100
Distance (ft)	49	77	111	151	197	249	308

a. Graph the data using an appropriate scale on the axes at the right.

b. Which equation seems to model the data best: $y = kx$, $y = kx^2$, $y = \frac{k}{x}$, or $y = \frac{k}{x^2}$?

_____

c. Find the constant of variation for your model.

_____

d. According to your model, how far will a ball travel if it leaves the machine at 75 ft/sec?

_____

2. For six days, Sarah recorded the time it took her to bike to school and her average speed. Her data are shown in the table below.

Speed (mi/hr)	6	8	10	12	14	16
Time (min)	20	15	12	10	8.5	7.5

a. Graph the data using an appropriate scale on the axes at the right.

b. Which equation seems to fit the data best:

$y = kx$, $y = kx^2$, $y = \frac{k}{x}$, or $y = \frac{k}{x^2}$? _____

c. Find the constant of variation for your model. _____

d. According to your model, how long will it take her to get to school if she bikes at 20 mi/hr? _____