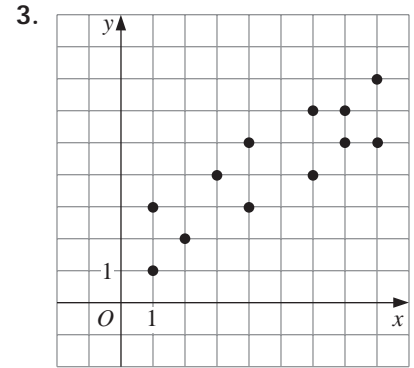
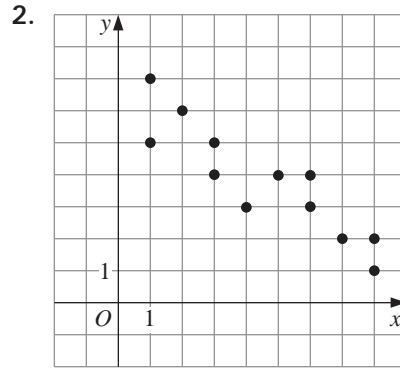
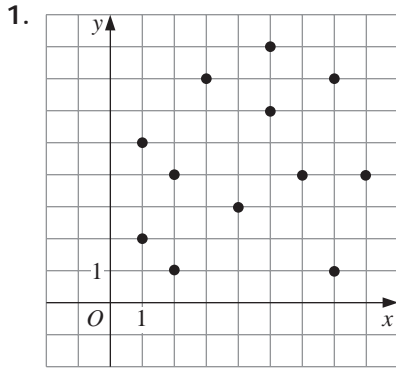


Practice 11

FOR USE WITH SECTION 2.5

For Exercises 1–3, estimate the correlation coefficient for the given scatter plots.



For Exercises 4–9, tell whether you would expect the correlation between the two quantities to be *positive*, *negative*, or *about zero*.

4. The weight of a car and the car’s fuel economy (number of miles per gallon it gets).
5. The price of a pair of shoes and the length of time before they wear out.
6. The outside temperature on a day in November and sales of sweaters in a department store on that day.
7. Your calorie intake at breakfast before a math test and your score on the test.
8. The profits of a health food store and the average number of customers per day that enter the store.
9. The number of minutes per day you use your calculator and the number of days before the batteries must be replaced.
10. The research department of a horticultural company studied the growth rates of a certain kind of seed when various amounts of a fertilizer were added to the soil. The results of their study are shown in the table below.

Amount of fertilizer used (lb)	0.4	0.8	1.4	2.0	2.6	3.2
Days for plant height to reach 3 in.	18	15	14	12	10	10

- a. Use a graphing calculator or statistical software to make a scatter plot of the data. Estimate the correlation coefficient from your scatter plot.
- b. Find the equation of the least-squares line and find the correlation coefficient of the data.
- c. Use your equation from part (b) to estimate the number of days it would take a plant to reach a height of 3 in. if 4 lb of fertilizer were used.
- d. **Open-ended Problem** Do you think the equation from part (b) gives an accurate estimate in part (c)? Give a reason for your answer .