

Unit Rates

Activity 1 — Kendrea's Doll House

Kendrea is making a doll house from a drawing. A side which measures five centimeters long in the drawing will measure 2 feet long in the doll house.

The scale may be expressed as one of the following ratios: 5 cm : 2 feet or 2 feet : 5 cm

- a. If a side measures 1 centimeter long in the drawing, how many feet long will it measure in the doll house?

Number of feet	2	
Number of cm	5	1

- b. What is the unit rate of feet per cm?

- c. How many feet is represented by 25 centimeters in the drawing?

- d. If a side on the doll house is to be 1 foot long, how many centimeters will be used to represent it in the drawing?

Number of feet	2	1
Number of cm	5	

- e. What unit rate is represented in this situation?

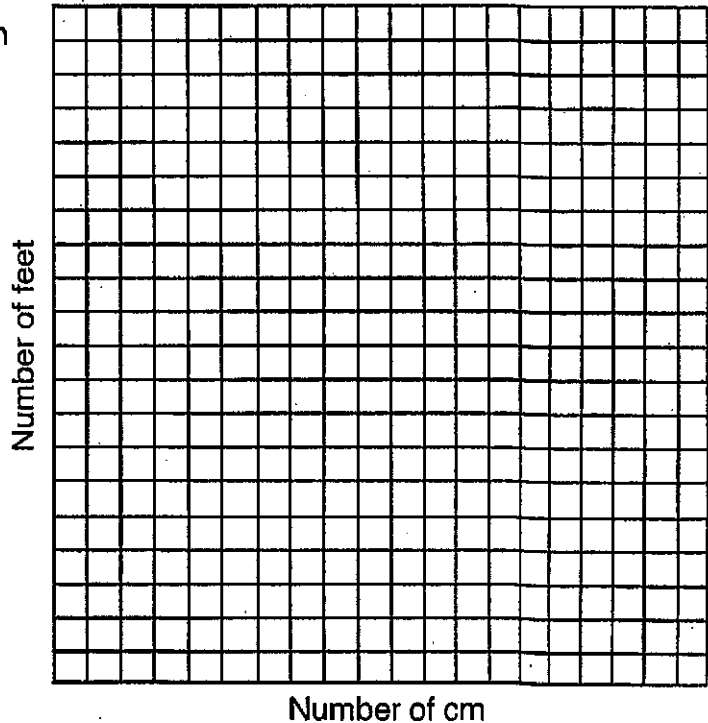
- f. Complete this table to show other possible equivalent ratios:

Number of feet	2	$\frac{2}{5}$	1	3	4	7		
Number of cm	5	1					12	20

- g. Graph the data and write a description of your graph.

- h. Write an equation which describes the proportional relationship between the measurements on the drawing and the measurements of the doll house.

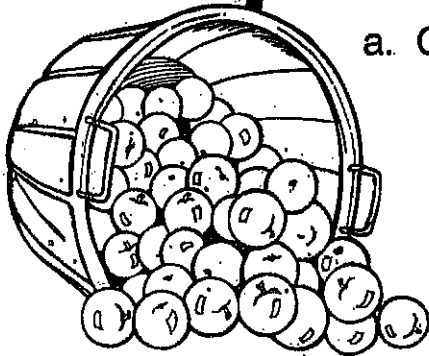
- i. If Kendrea had decided to use the scale, 5 cm represent 3 feet, what two unit rates would have been evident?



Unit Rates

6 apples for
\$1.50

Activity 2—A Bushel and a Peck

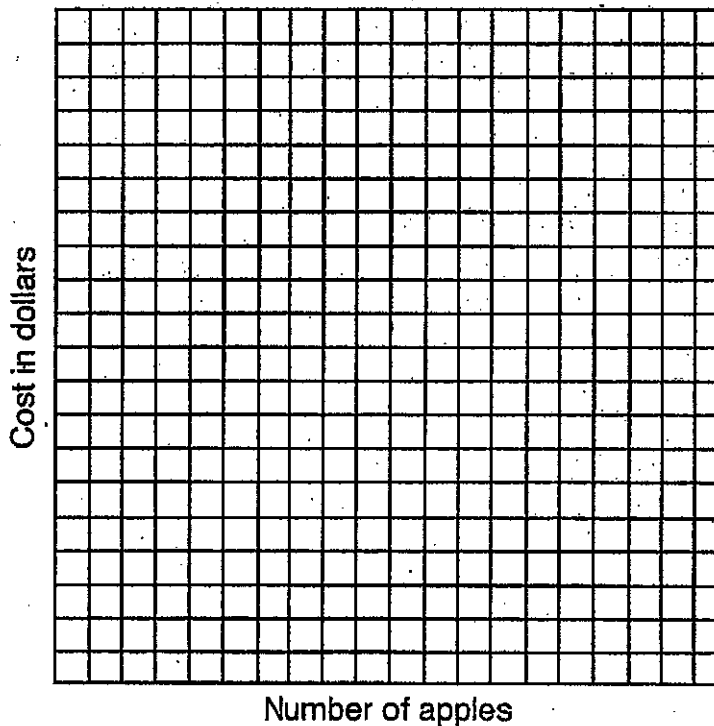


a. Complete this table.

Number of apples	6	3	5	8			27		19
Cost in dollars	1.50				4.00	2.50		3.75	

b. Identify two different unit rates that describe this proportional relationship.

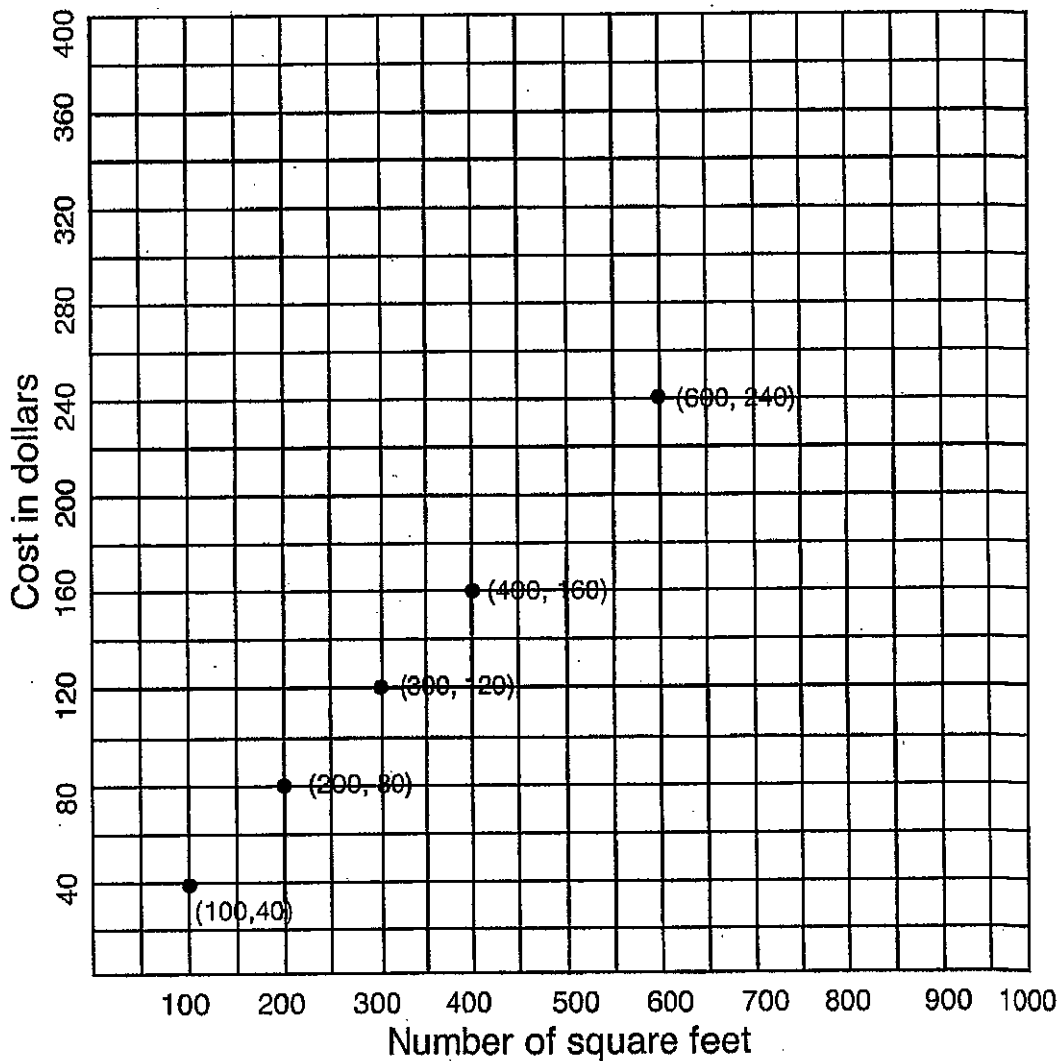
c. Draw a graph of the data.



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Activity 3—Clean Sweep

The graph shows the relationship between the amount charged to clean carpet and the number of square feet cleaned.



- Explain why this graph represents a proportional relationship.
- Identify two different unit rates that describe this proportional relationship. Explain.
- Since the rate of charge is constant, how much would you expect to pay for 1200 square feet of carpet? How did you determine your answer? How can you use a unit rate to determine your answer?
- How many square feet of carpet can you have cleaned for \$200? How did you determine your answer? How can you use a unit rate to determine your answer?