

# constant of proportionality

Example: Courtney earns \$17 for babysitting for 2 hours, and earns \$51 for babysitting for 6 hours. Show that the relationship between the number of hours Courtney babysits and the money that she earns is a proportional relationship.

step 1 Create a table relating the time in hours that she babysits to the money that she earns in dollars.

Time (h)		
Cost (\$)		

step 2 Write the rates based on your table and simplify each rate.

\_\_\_\_\_ → \_\_\_\_\_ = \_\_\_\_\_      \_\_\_\_\_ = \_\_\_\_\_

The rates are all equal to \_\_\_\_\_ per hour. There (is/is not) a constant rate of change, so the relationship is

\_\_\_\_\_. The constant rate of change is \_\_\_\_\_ per hour.

step 3 To write an equation, first tell what the variables represent.

$$y = kx$$

- Let  $x$  represent the amount of time in hours that she babysits.
- Let  $y$  represent the cost in dollars.
- Use the constant rate of change as the constant of proportionality.  $k$  represents the constant of proportionality.

The equation for this relationship would be \_\_\_\_\_.

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