Proportional Situations

AGENDA

Goal

Notes

Practice/Homework

Lesson Target

- To recognize a proportional situation using the context, a table of values, or a graph
- To represent or interpret a proportional situation using a graph, a table of values.

Direct Proportionality

- Any situation involving equivalent ratios or rates is a direct proportional situation.
- In the table of values of a direct proportional situation, the numbers in the first row (or column) -Variable x- and the second row (or column)-Variable y form sequences of proportional numbers.

Direct Proportionality in a Table of Values

- Example

  salary according to the number of hours work.

x: Time (h)	0	2	3	5	8
y: Salary	0	8	12	20	32

$\times 4$ ← Coefficient of proportionality

- We obtain the numbers in the second row by multiplying each term of the first row by a constant called the coefficient of proportionality.

Direct Proportionality

In the previous example:

- the salary is directly proportional to the number of hours worked.

Direct Proportionality Graphical Representation

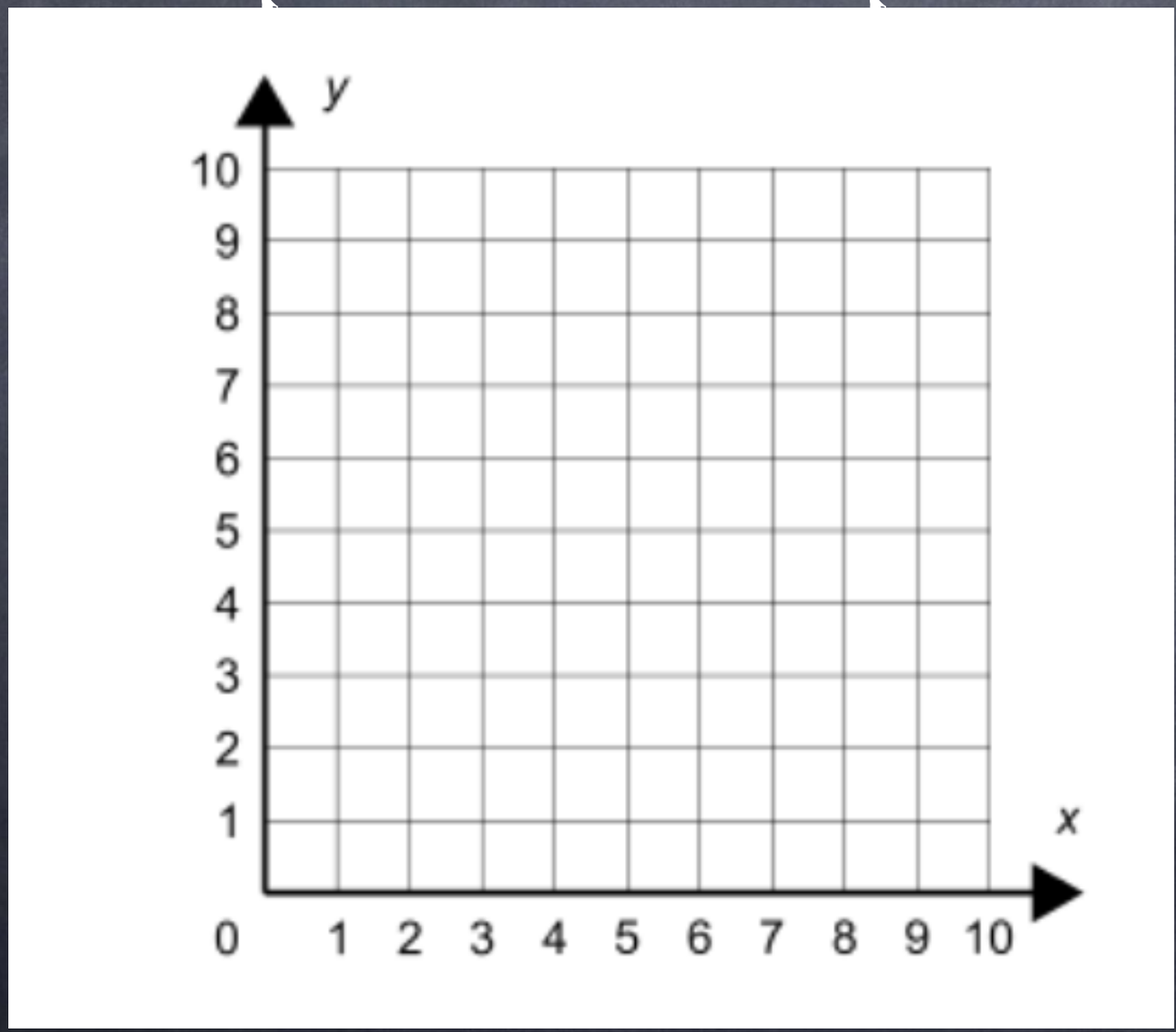
- A direct proportional situation is represented graphically on a graph by a straight diagonal line that passes through the origin.

- The rule for a direct proportional situation is of the form

$$y=ax$$

where a represents the coefficient of proportionality.

Direct Proportionality Graphical Representation



Homework

- Workbook p. 40 #2, 3, 4, 5, 6, 7, 9

Inverse Proportionality

- In an **inverse proportional** situation, the product of the independent variable (x) and the dependent variable (y) remains **constant**.

- An inverse proportional situation is represented graphically by a **curve** that **gradually** approaches the **axes**. (see example on p. 43 in your WB).
  When x **increases**, y **decreases**

- The **rule** of an inverse proportional situation is $y = \frac{a}{x}$

Homework

- p. 43. Activity 2, 12, 13