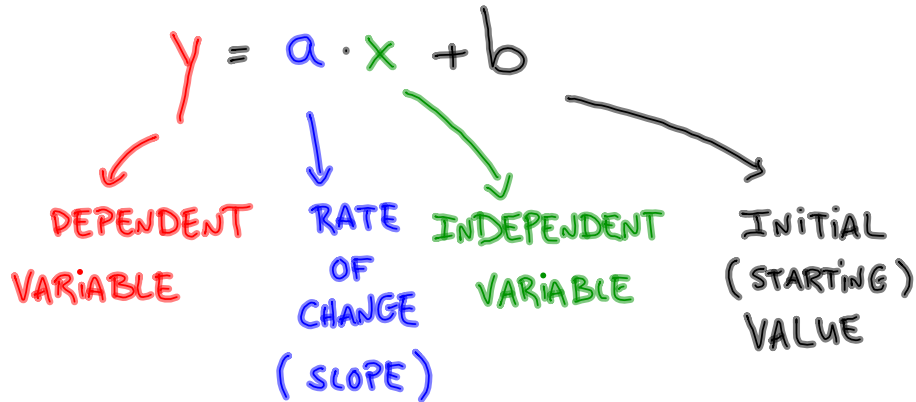


WRITING RULES FROM WORD PROBLEMS.



GIVEN A WORD PROBLEM, YOU'LL BE ASKED TO TURN THE SITUATION INTO A RULE.

Ex: YOU GET A BABYSITTING JOB WHERE YOU ARE PAID 5 \$ JUST TO SHOW UP AND 10 \$ FOR EACH ADDITIONAL HOUR.

STEP ① IDENTIFY THE VALUES THAT ARE CHANGING IN THE PROBLEM.

→ BE SPECIFIC

Ex: You GET A BABYSITTING JOB WHERE YOU ARE PAID 5\$ JUST TO SHOW UP AND 10\$ FOR EACH ADDITIONAL HOUR.

VALUES → MONEY EARNED (\$)
→ TIME (HOURS)

② DECIDE WHICH VALUE DEPENDS ON THE OTHER TO CHANGE.

VALUES → \$ EARNED
→ TIME

DOES \$ MAKE TIME CHANGE?

DOES TIME MAKE \$ CHANGE?

\$ CHANGING DEPENDS ON TIME CHANGING.

THE \$ IS CALLED
THE DEP. VARIABLE

gets a Y

THE TIME IS CALLED
INDEPENDENT.

gets an X

③ IDENTIFY THE RATE OF CHANGE $\left(\begin{array}{l} + \text{ if } \nearrow \\ - \text{ if } \searrow \end{array} \right)$
& MAKE IT SIMPLE AS POSSIBLE.

Ex: You GET A BABYSITTING JOB WHERE
YOU ARE PAID 5 \$ JUST TO SHOW UP
AND 10 \$ FOR EACH ADDITIONAL HOUR.

THE RATE OF CHANGE IS +10\$ per 1 hour.

④ IDENTIFY THE INITIAL (STARTING)
VALUE.

Ex: You GET A BABYSITTING JOB WHERE
YOU ARE PAID 5 \$ JUST TO SHOW UP
AND 10 \$ FOR EACH ADDITIONAL HOUR.

INITIAL VALUE = 5 \$

⑤ WRITE THE RULE IN THE FORM

$$y = a \cdot x + b$$

$$\text{DEP VAR} = \text{R.O.C} \cdot \text{IND VAR} + \text{INITIAL VALUE.}$$

$$\text{\$ EARNED} = 10 \frac{\text{\$}}{\text{hr}} \cdot \text{HOURS} + 5 \text{\$}$$

$$y = 10 \cdot x + 5$$

Ex: YOUR PHONE CAN BE CHARGED 1000 TIMES
AND YOU CHARGE IT 2 TIMES A DAY.
HOW MANY CHARGES ARE LEFT?

- VALUES :
- R.O.C
- INITIAL VALUE
- RULE :

EX: YOUR PHONE CAN BE CHARGED 1000 TIMES
AND YOU CHARGE IT 2 TIMES A DAY.
HOW MANY CHARGES ARE LEFT?

- VALUES: CHARGES LEFT \rightarrow DEP. (Y)
TIME (DAYS) \rightarrow IND. (X)
- R.O.C
-2 charges per day (going \downarrow)
- INITIAL VALUE: 1000 TIMES
- RULE: CHARGES LEFT = -2 $\frac{\text{CHARGES (DAYS)}}{\text{DAY}}$ + 1000

$$y = -2(x) + 1000$$