Algebra II

Direct and Inverse Varation

Homework: Worksheet

Direct Variation

Direct variation is used to model variables that are directly proportional.

Examples:

- Time spent studying and your grade
- Education and Salary
- · Time practicing & Skill level · Length of school day & Boredom A grad Power

"y varies directly with x" is modeled by **y=kx**

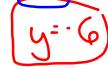
Example: K: constant of variation

y varies directly with x. If y=3 when x=9 write the equation that models x and y. Then find y when x=6

Given: y varies directly with x → y=k·x

1. If $\underline{x=4}$ when $\underline{y=8}$, find x when $\underline{y=2}$

2.
$$x=-2$$
 when $y=4$, find y when $x=3$



Inverse Variation

Inverse variation is used to model variables that are **inversely proportional**.

Exmples:

- Workers and Time spent on a job
- Speed and Time to Location
- · # of text messages & attention · amount of Good paten & how hungry you on

"y varies inversely with x" can be modeled by: y = k or xy = k

Example:

y varies inversly with x. If y=3 when x=2, write the equation that models x and y. Then find y when x=6

Given: y varies inversely with x $x \cdot y = k$ 1. x=2 when y=-2. Find x when y=2 X=12

2. y=6 when x=
$$\frac{1}{2}$$
. Find y when x=3
$$2. y=6 \text{ when } x=\frac{1}{2}.$$

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$$3. y=6 \text{ when } x=3$$

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