

Problem of the Day: State the domain and range.

a. $D: \{-3, -2, 1, 4\}$ $R: \{-4, -2, 0, 3, 5\}$

Plan for the Day: Go over last week's test- due signed by Thursday

Notes on independent vs. dependent variables

More practice with independent and dependent

Objective: We will be able to identify independent and dependent variables.

Today is National Punctuation Day!!

9. $y = mx + b$ $23. a = \frac{e-b}{t-e}$

$\frac{y-b}{m} = x$ $at = \frac{e-b}{t-e}$

$\frac{y+b}{m} = x$ $\frac{at-e}{-1} = \frac{-b}{-1}$ $at + b = e - at$

21. $x < 3$ $-at + b = e - at$ $\boxed{C. b = e - at}$

$e - at$

7. $8 - 6x - 3 - 5x < -4(6 + 3x) - 6(x + 8)$

$8 - 6x - 3 - 5x < -24 - 12x - 6x - 48$

$5 - 11x < -72 - 18x$

$+18x$ $+18x$

$5 + 7x < -72$

-5 -5

$7x < -77$

$x < -11$

9. $y = mx + b$ $20. 1 - 5x - 8 > -7(3 - x) - 4(x + 2)$

$\frac{y-b}{m} = x$ $1 - 5x - 8 > 21 + 7x - 4x - 12$

$\frac{y+b}{m} = x$ $-5x - 7 > 3x + 9$

$+5x$ $+5x$

$-7 > 8x + 9$

-9 -9

$-16 > 8x$

$-2 > x$ or $x < -2$

12. $y = \frac{jk_0 - n}{m}$ $21. x < 3$

23. $a = \frac{e-b}{t-e}$

$at = \frac{e-b}{t-e}$ $\frac{at-e}{-1} = \frac{-b}{-1}$

$at + b = e - at$ $-at + e = b$

$\boxed{b = e - at}$

Independent variable - a variable whose value determines the value of the output, or dependent variable; the variable that controls the outcome

Dependent variable - a variable whose value depends on the value of the input, or independent variable; the variable that changes

The independent values make up the domain, or the x-values.

The dependent values make up the range, or the y-values.

Another way to remember what is independent and dependent is the saying

DR. ID is In & Out.

x	y
Domain	Range
Independent	Dependent
Input	Output

Similar to the DRY MIX that you have used before.

Determine which part is the independent variable and which is the dependent variable.

Effects of hyperactivity

independent

dependent

Equations can also have independent and dependent variables.

For example, $y = 2x + 1$. The value of y depends upon what numbers are put in for the independent variable, x .

You can make a T-chart to determine the values.

x	$2x + 1$	y

Example: Determine the range of dependent values when given the domain values.

a. $y = 3x + 8$ if $D = \{-1, 4, 7\}$

b. $y = -2x - 1$ if $D = \{-5, 0, 5\}$