Name: Answer Key Date: 1/22/26

Precalculus 8.1. session

*If you have any questions, please ask! I am here to help ☺

Is this table a function? why or why not?

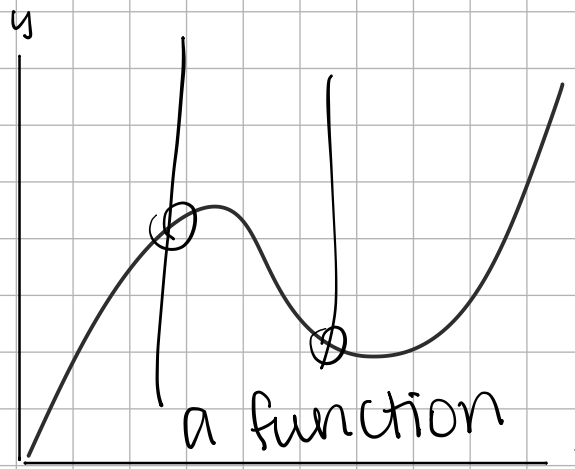
x	5	6	7	8	5	9
f(x)	10	7	9	2	3	4

this table is not a function because there are multiple of the same x-value for different y-values.

Is this table a function? why or why not?

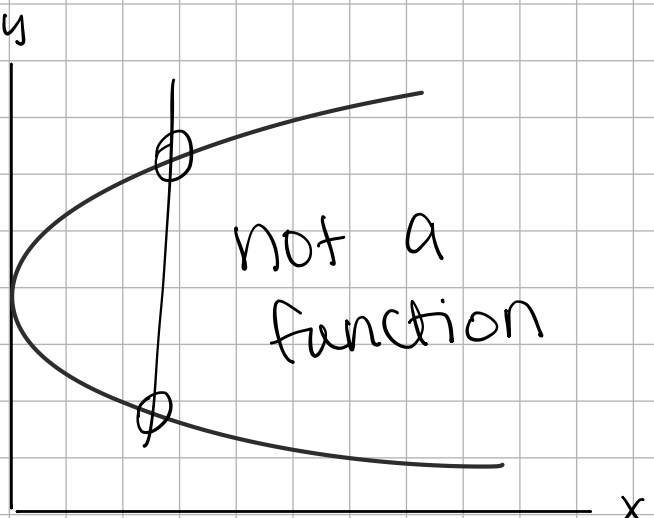
x	8	9	10	11	7	5
f(x)	2	4	9	8	5	8

yes. there are no repeating x-values
Vertical line test



does this graph pass?

(yes) or no



does this graph pass?

yes or (no)

factor the following polynomials, then foil your answer to check your work!

FOIL = First, Outside, Inside, Last

a) $x^2-2x-15$

15
1 · 15
3 · 5

$(x-5)(x+3)$

$(x-5)(x+3)$

$x^2+3x-5x-15$

$x^2-2x-15$

b) $3x^2+3x-18$

$3(x^2+x-6)$

6
6 · 1
3 · 2

$3(x+3)(x-2)$

$3(x+3)(x-2)$

$(3x+9)(x-2)$

$3x^2-6x+9x-18$

$3x^2+3x-18$

c) $5x^2+19x+12$

60
60 · 1
30 · 2
20 · 3
15 · 4
12 · 5
10 · 6

$x^2+19x+60$

$\frac{(x+15)}{5}\frac{(x+4)}{5}$ — it won't divide evenly, so it goes in front

$(x+3)(5x+4)$

$5x^2+4x+15x+12$

$5x^2+19x+12$

d) $2x^2-50$

$2(x^2-25)$

$2(x+5)(x-5)$

$2(x+5)(x-5)$

$x^2-5x+5x-25$

$2(x^2-25)$

$2x^2-50$

Exponentials and logs

rewrite the exponentials into log form

a) $2^x = 8$ $\log_2 8 = x$ don't solve

b) $5^2 = x$ $\log_5 x = 2$

c) $e^x = 1$ $\ln 1 = x$ or $\log_e 1 = x$

rewrite the logs into exponential form

a) $\ln x = 4$ $e^4 = x$

$\log_e x = 4$ rewriting like this helps me visualize

b) $\log 100 = 2$ $10^2 = 100$