Trig Review Ch. 3

Test Ch. 3 is Thurs.

Find $f^{-1}(x)$. Then state whether $f^{-1}(x)$ is a function.

33. $f(x) = (x-2)^3 - 8$

y

$x = (y-2)^3 - 8$

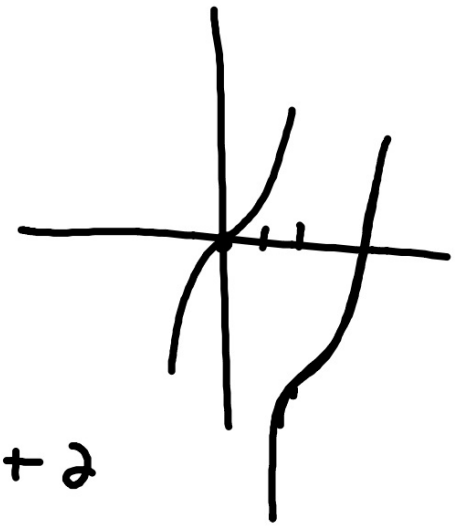
$+8 \qquad +8$

$\sqrt[3]{x+8} = \sqrt[3]{(y-2)^3}$

$\sqrt[3]{x+8} = y-2$

$+2 \qquad +2$

$f^{-1}(x) = \sqrt[3]{x+8} + 2$



(3-parts)

Determine whether each function is continuou
at the given x-value. Justify your response
using the continuity test.

yes

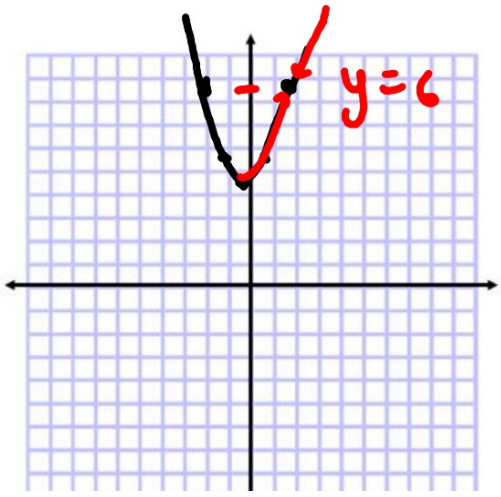
35. $y = x^2 + 2; (x = 2)$

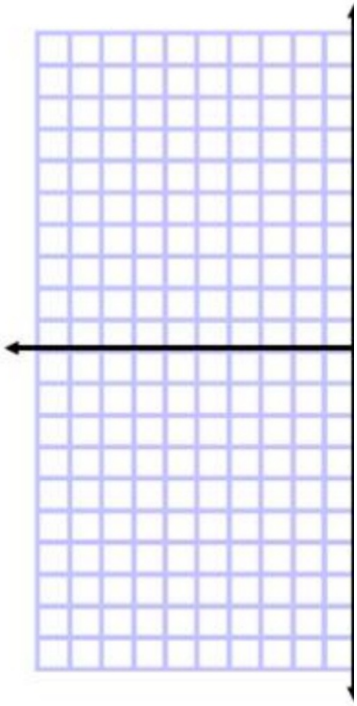
$y = x^2 + 2$

$f(2) = 4 + 2 = 6$

36. $y = \frac{x - 3}{x + 1}; x = -1$

no

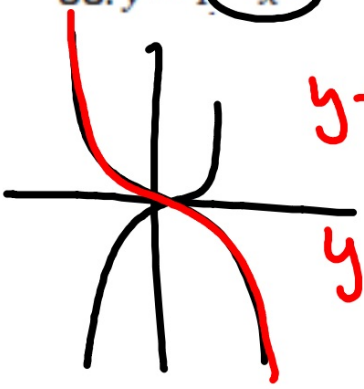




Describe the end behavior of each function.

38. $y = -x^3$

39. $f(x) = x^9 + x^7 + 4$



$y \to \infty$ if $x \to -\infty$

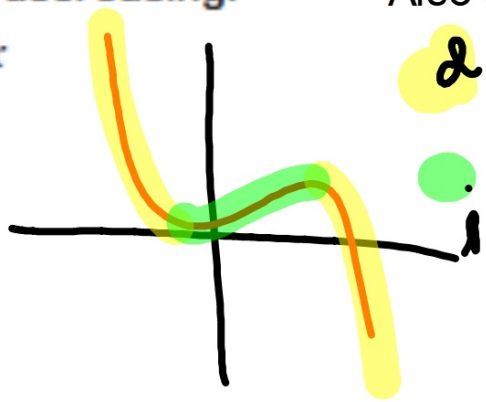
$y \to -\infty$ if $x \to \infty$

Determine the interval(s) for which the function is increasing and the interval(s) for which the function is decreasing.

42. $y = -2x^3 - 3x^2 + 12x$

43. $f(x) = |x^2 - 9| + 1$

. . .



You need a decent graph to answer these...
Also a good window...

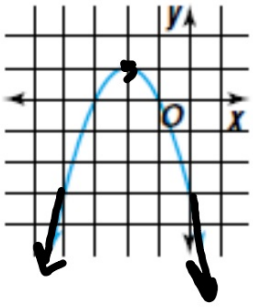
d $(-\infty, -2)$
$(1, \infty)$

i $[3, 1]$

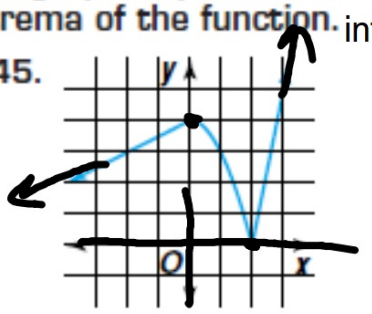
abs max/min
rel max/min
inflection only if asked

Locate the extrema for the graph of $y = f(x)$.
Name and classify the extrema of the function.

44.



45.



P 199 SGR
35-570