

Below is a list of possible topics for the test. Any material covered in notes, homework, warm-ups/closure activities and/or worksheets is fair game. It is your responsibility to study thoroughly for each assessment.

*even/odd and y-axis/origin symmetry

*boundedness

*inverses

~graphically: reflect over $y = x$ line or switch x- and y-coordinates

~algebraically: switch x- and y-coordinates and solve for y

~use composites to determine if two functions are inverses of one another

*transformations

~verbally describe from the mother graph

~graph a function from the library of functions that includes transformations

*domain and range

~domain from a graph and from an algebraic equation

~range only from a graph

*continuity

~determine the value that makes a function continuous for a given x

~determine if a function is continuous

*discontinuity

~know types of discontinuities by name and whether they are removable or non-removable

~state where a discontinuity occurs

*operations with functions (add/sub/mult/div/compose)

*extrema

~location as a point

~local/relative vs. absolute

*piece wise functions

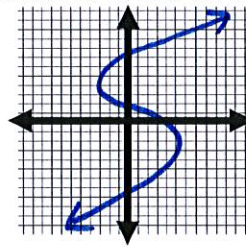
~create the graph

~evaluate

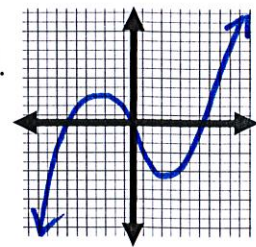
1. Determine whether each is a function. Then state whether it is one-to-one.

A. $\{(1, 9), (6, 3), (8, 0), (-1, 2)\}$

B.



C.



2. State the domain in interval notation. Be sure to back your answer up algebraically.

A. $f(x) = \frac{x}{x^2-25}$

B. $g(x) = \sqrt{x+3}$

C. $h(x) = 6x^4 - 5x^2$

D. $w(x) = \frac{x+3}{\sqrt{x^2-2x-15}}$

3. Determine if the function is even, odd or neither. Be sure to back your answer up algebraically. Then state whether it has y-axis, origin or neither symmetry

A. $f(x) = 6x^4 - x^5$

B. $w(x) = \sqrt{x^2-1}$

C. $h(x) = \frac{3}{x^3+x}$

4. Given: $f(x) = \frac{1}{x}$, $g(x) = \sqrt{x+2}$ and $h(x) = x^2 + 1$, find each of the following.

A. $f(2)$

B. $f(g(14))$

C. $\left(\frac{f}{h}\right)(x)$

D. $(f+h)(x)$