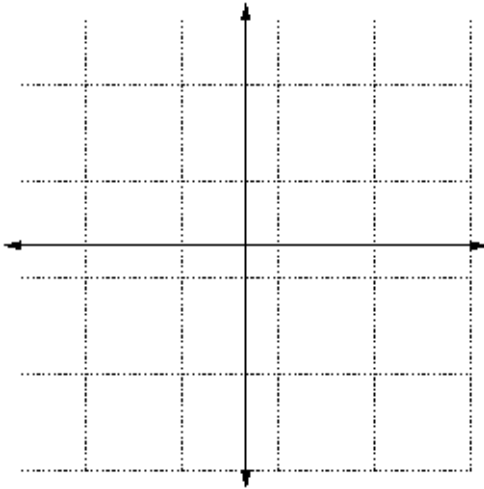


PreCalculus Quiz

Your Name:

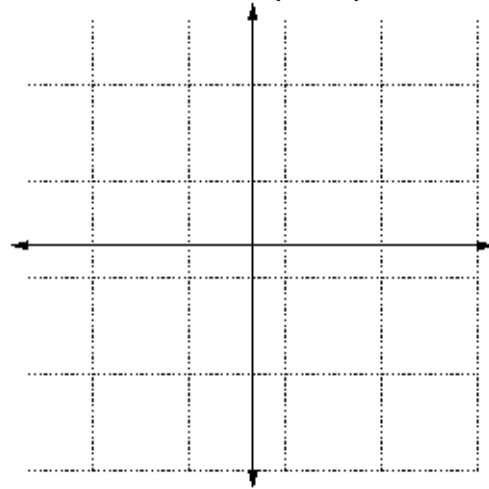
(1-2) Use your knowledge of transformations to sketch the graph without using a calculator. Then indicate domain and range.

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



domain	range
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2. $y = \frac{2}{3(x - 2)}$



domain	range
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3. A picture frame creates a 3 inch wide border around a photograph. If the photograph is twice as tall as it is wide, write a formula for the outer dimensions of the framed picture.

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4. The sum of two natural numbers is 108. Find two such numbers so that the first number times the square of the second number is a maximum.

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Find the domain of the given function.

5. $f(x) = \sqrt{7 - \frac{7}{2x}}$

6. $g(x) = \frac{1}{x^2 - 4}$

Even, odd, or neither? Justify.

7. $f(x) = x^3 - 2x$

8. $g(x) = \frac{7x^2}{x^4 + 1}$

Given the function $f(x) = \frac{1}{100}x^4 - x^2 \dots$

9. On what interval(s) is it increasing?

10. On what interval(s) is it decreasing?

Given the functions $f(x) = x - 3\sqrt{x}$, $g(x) = 1 - x$, $h(x) = 2x^3 + 5$

11. $(f - g)(x) =$

12. $(g \circ h)(x) =$

13. $(gf)(x) =$

14. $h^{-1}(x) =$
