

Precalculus Snow Day Assignment #2
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Name _____

Show All Work.

1. If $f(x) = x^2 - 4x$ and $g(x) = 2x - 5$, find all x values for which $f(x) = g(x)$

1. _____

2. Find $f(-1)$ if $f(x) = \begin{cases} 7 - x^2, & x < 0 \\ 3x - 1, & x \geq 0 \end{cases}$

2. _____

3. State the domain of $f(x) = \frac{-x}{\sqrt{9 - x^2}}$

3. _____

4. Write the equation of the circle with a center of $(3, -6)$ and a diameter of 20 cm.

4. _____

5. Combine and simplify:

$$\frac{x}{x+4} - \frac{14}{x^2 + x - 12} + \frac{2}{x-3}$$

5. _____

6. Simplify: $\frac{x^2 - 9}{2x^3 - 6x^2 + x - 3}$

6. _____

7. State the range of $f(x) = 2x^2 + 4x - 1$

7. _____

8. Write the equation of the line with a slope of $\frac{3}{4}$ that goes through the point $(-3, -7)$ in standard form.

8. _____

9. Sketch the graph of $f(x) = -(x - 2)^3 - 3$

9. _____

10. Sketch the graph of $f(x) = 2\sqrt{x - 3} - 1$

10. _____