

Name: _____

Math III Spiral Review Week of April 3

1. Factor this quadratic: $x^2 - 9x - 36$

2. Put this quadratic equation into vertex form: $f(x) = -5x^2 - 20x - 13$

3. Given: $f(x) = 3x^2 + 4x + 5$ and $g(x) = \sqrt{x - 2}$; Find $f(g(11))$

4. A rectangle has an area of $3x^2 + 17x + 20$. The width is represented by $(x + 4)$. Find the expression that represents the length.

5. Determine whether $(x - 3)$ is a factor of the polynomial: $2x^4 + 5x^2 - 4x - 42$.

6. A polynomial has the given zeros: $-7, 9, \frac{4}{3}$. Write this polynomial in factored form.

7. What is the vertical asymptote of the function?: $f(x) = \frac{x^2 + 11x + 24}{x^2 + x - 6}$

8. Identify the range of the quadratic function, in interval notation: $f(x) = (x - 4)^2 + 3$

9. Simplify: $\frac{4x^2 - 49}{x^2 + 6x - 40} \div \frac{2x^2 + 9x + 7}{x^2 - 3x - 4}$

10. A circular pizza is cut into 12 equal slices. The pizza has a diameter of 22 inches. What is the length of the crust on one slice of pizza?