



NAME _____ DATE _____ PERIOD _____

Skills Practice

Rational Zero Theorem

List all of the possible rational zeros of each function.

1. $n(x) = -1x^2 + 5x + 3$ $\frac{p}{q} = \frac{\pm 1, \pm 3}{\pm 1}$

$\begin{matrix} +3 \\ \wedge \\ 1 \cdot 3 \end{matrix}$ $\begin{matrix} +1 \\ \wedge \\ 1 \cdot 1 \end{matrix}$

List: $\pm 1, \pm 3$

2. $h(x) = x^2 - 2x - 5$

3. $w(x) = x^2 - 5x + 12$

4. $f(x) = 2x^2 + 5x + 3$ $\frac{p}{q} = \frac{\pm 1, \pm 3}{\pm 1, \pm 2}$

$\begin{matrix} +3 \\ \wedge \\ 1 \cdot 3 \end{matrix}$ $\begin{matrix} 2 \\ \wedge \\ 1 \cdot 2 \end{matrix}$

List: $\pm 1, \pm \frac{1}{2}, \pm 3, \pm \frac{3}{2}$

5. $q(x) = 6x^3 + x^2 - x + 2$

6. $g(x) = 9x^4 + 3x^3 + 3x^2 - x + 27$ $\frac{p}{q} = \frac{\pm 1, \pm 3, \pm 9, \pm 27}{\pm 1, \pm 3, \pm 9}$

$\begin{matrix} 27 \\ \wedge \\ 1 \cdot 27 \\ 3 \cdot 9 \end{matrix}$ $\begin{matrix} 9 \\ \wedge \\ 1 \cdot 9 \\ 3 \cdot 3 \end{matrix}$

Find all of the rational zeros of each function.

List: $\pm 1, \pm 3, \pm 9, \pm 27, \pm \frac{1}{3}, \pm \frac{1}{9}$

7. $f(x) = x^3 - 2x^2 + 5x - 4$

8. $g(x) = x^3 - 3x^2 - 4x + 12$

Find all of the rational zeros of each function. Use Nspire to help you.

See me

7. $f(x) = x^3 - 2x^2 + 5x - 4$

8. $g(x) = x^3 - 3x^2 - 4x + 12$

9. $p(x) = x^3 - x^2 + x - 1$

10. $z(x) = x^3 - 4x^2 + 6x - 4$

11. $h(x) = x^3 - x^2 + 4x - 4$

12. $g(x) = 3x^3 - 9x^2 - 10x - 8$

13. $g(x) = 2x^3 + 7x^2 - 7x - 12$

14. $h(x) = 2x^3 - 5x^2 - 4x + 3$

15. $p(x) = 3x^3 - 5x^2 - 14x - 4$

16. $q(x) = 3x^3 + 2x^2 + 27x + 18$

17. $q(x) = 3x^3 - 7x^2 + 4$

18. $f(x) = x^4 - 2x^3 - 13x^2 + 14x + 24$