Rational zeros 01 Name_____

Daily Work

Date_____

State the possible rational zeros for each function. Then find all rational zeros.

1) $f(x) = 2x^5 - 4x^4 + 5x^3 - 10x^2$

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

3) $f(x) = x^5 - x^4 + 7x^3 - 18x^2$

4) $f(x) = 4x^5 + 20x^4 - 5x^3 - 25x^2$

5) $f(x) = x^5 - 9x^4 - 19x^3 + 6x^2$

6) $f(x) = x^5 - 2x^4 - 2x^3 - 3x^2$

7) $f(x) = 4x^5 - 8x^4 + 5x^3 - 10x^2$

8) $f(x) = 3x^5 - 13x^4 + 13x^3 - 3x^2$

Answers to Daily Work

1) Possible rational zeros: $0, \pm 1, \pm 2, \pm 5, \pm 10, \pm \frac{1}{2}, \pm \frac{5}{2}$

   Rational zeros: $\{0 \text{ mult. } 2, 2\}$

2) Possible rational zeros: $0, \pm 1, \pm 5, \pm \frac{1}{2}, \pm \frac{5}{2}, \pm \frac{1}{4}, \pm \frac{5}{4}$

   Rational zeros: $\{0 \text{ mult. } 2, 1\}$

3) Possible rational zeros: $0, \pm 1, \pm 2, \pm 3, \pm 6, \pm 9, \pm 18$

   Rational zeros: $\{0 \text{ mult. } 2, 2\}$

4) Possible rational zeros: $0, \pm 1, \pm 5, \pm 25, \pm \frac{1}{2}, \pm \frac{5}{2}, \pm \frac{25}{2}, \pm \frac{1}{4}, \pm \frac{5}{4}, \pm \frac{25}{4}$

   Rational zeros: $\{0 \text{ mult. } 2, -5\}$

5) Possible rational zeros: $0, \pm 1, \pm 2, \pm 3, \pm 6$

   Rational zeros: $\{0 \text{ mult. } 2, -2\}$

6) Possible rational zeros: $0, \pm 1, \pm 3$

   Rational zeros: $\{0 \text{ mult. } 2, 3\}$

7) Possible rational zeros: $0, \pm 1, \pm 2, \pm 5, \pm 10, \pm \frac{1}{2}, \pm \frac{5}{2}, \pm \frac{1}{4}, \pm \frac{5}{4}$

   Rational zeros: $\{0 \text{ mult. } 2, 2\}$

8) Possible rational zeros: $0, \pm 1, \pm 3, \pm \frac{1}{3}$

   Rational zeros: $\left\{0 \text{ mult. } 2, \frac{1}{3}, 1, 3\right\}$