

3.3 WS 2

Use the Rational Zero Theorem to list possible rational zeros for each polynomial function.

1. $P(x) = x^3 - 19x - 30$

2. $P(x) = 6x^4 + 23x^3 + 19x^2 - 8x - 4$

Find the smallest positive integer that is the upper bound and the largest negative integer that is a lower bound of the real zeros of each polynomial.

3. $P(x) = -3x^3 - 2x^2 + 4x - 31$

4. $P(x) = 2x^3 + 4x^2 - 8x + 7$

Use Descartes' Rule of Signs to state the number of possible positive and negative real zeros of each polynomial function.

5. $P(x) = 3x^3 + 11x^2 - 6x - 8$

6. $P(x) = 2x^5 + 23x^4 + 90x^3 + 152x^2 + 116x + 33$

Find the zeros of each polynomial function. If a zero is a multiple zero, state its multiplicity.

7. $P(x) = 3x^3 + 11x^2 - 6x - 8$

8. $P(x) = 2x^4 - 9x^3 - 2x^2 + 27x - 12$

9. $P(x) = x^3 - 7x^2 - 7x + 69$

10. $P(x) = 6x^4 + 23x^3 + 19x^2 - 8x - 4$