3.3 WS 3

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

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

2. $P(x) = 4x^4 - 12x^3 - 3x^2 + 12x - 7$

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. $P(x) = 3x^4 - 9x^3 + 2x^2 - 5x - 8$

4. $P(x) = -5x^4 + 14x^3 + 2x^2 - 12x + 325$

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

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

6. $P(x) = x^5 - 2x^4 - 35x^3 + 158x^2 - 242x + 168$

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

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

8. $P(x) = 4x^4 - 35x^3 + 71x^2 - 4x - 6$

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

10. $P(x) = x^3 - 8x^2 + 8x + 24$