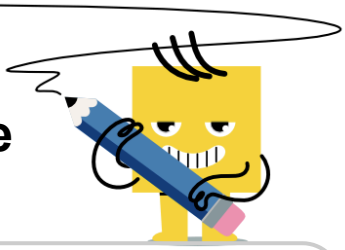
Name

# Rational Root Theorem - Factors of the Leading Coefficient



**1**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 4x^3 + 20x^2 + 8x - 32$

| A | B |
|---|---|
| 1, 2, 4, 8 | 1, 2, 4, 8, 16, 32 |

**2**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 3x^4 + 9x^3 - 21x^2 - 81x - 54$

| A | B |
|---|---|
| 1, 3, 7, 21 | 1, 3, 9, 27, 81 |

**3**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 2x^3 + 6x^2 - 12x - 16$

| A | B |
|---|---|
| 1, 2, 3, 4, 6, 12 | 1, 2 |

**4**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 3x^5 - 9x^4 - 21x^3 + 33x^2 + 18x - 24$

| A | B |
|---|---|
| 1, 3, 11, 33 | 1, 3 |

**5**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 3x^3 - 6x^2 - 15x + 18$

| A | B |
|---|---|
| 1, 3 | 1, 2, 3, 6 |

**6**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 5x^5 - 25x^4 + 30x^3 + 10x^2 - 35x + 15$

| A | B |
|---|---|
| 1, 5 | 1, 5, 25 |

**7**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 3x^4 - 15x^3 + 18x^2 + 12x - 24$

| A | B |
|---|---|
| 1, 2, 3, 4, 6, 12 | 1, 2, 3, 6, 9, 18 |

**8**

Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What are the factors of the leading coefficient in this polynomial?

$f(x) = 3x^4 - 3x^3 - 21x^2 + 39x - 18$

| A | B |
|---|---|
| 1, 2, 3, 6, 9, 18 | 1, 3 |