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(1a)

$P(x) = 4x^5 - 3x^4 - 2x^2 - 5 < 4x^5$

$P(x) < 4x^5$

$M = 4 \quad R = 1$

(1b)

$P(x) = 2x^3 - 3x^2 + 6x + 7 < 2x^3 + 6x + 7 < 2x^3 + 6x^3 + 7x^3 = 15x^3$

$M = 15 \quad R = 1$

(1c)

$P(x) = 6x^5 + 7x^4 + 10x^3 + x^2 + 2x + 3 < 6x^5 + 7x^5 + 10x^5 + x^5 + 2x^5 + 3x^5 = 29x^5$

$M = 29 \quad R = 1$

(2a)

$P(x) = 6x^5 + 7x^4 + 10x^3 + x^2 + 2x + 3 > 6x^5$

$m = 6 \quad R = 1$

(2b)

$P(x) = 2x^3 - 3x^2 + 6x + 7 > 2x^3 - 3x^2 = x^3 + x^3 - 3x^2 = x^3 + x^2(x-3) \geq x^3$

↳ $x - 3 \geq 0$

$x \geq 3$

$m = 1 \quad R = 3$

(2c)

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

↳ $3x^4 + 2x^2 + 5 < 3x^4 + 2x^4 + 5x^4 = 10x^4$

$P(x) < 4x^5 - 10x^4 = 2x^5 + 2x^5 - 10x^4 = 2x^5 + x^4(2x - 10) \geq 2x^5$

↳ $2x - 10 \geq 0$

$x \geq 5$

$m = 2 \quad R = 5$

(3c)

$f(x) = \frac{3x^4 + 2x^3 + 5x^2 + 7x + 6}{5x^2 - 3x - 10}$ (1) (2)

NRA $\left(\frac{A}{F}\right)$: $\frac{3x^4}{5x^2} = \frac{3}{5}x^2$

$m = \frac{3}{5} \quad R = 1$

NRF $\left(\frac{F}{A}\right)$: $\frac{23x^4}{4x^2} = \frac{23}{4}x^2$

$M = \frac{23}{4} \quad R = 13$

1F) $3x^4 + 2x^3 + 6x^2 + 7x + 6 < 3x^4 + 2x^4 + 5x^4 + 7x^4 + 6x^4 = 23x^4$

$M = 23 \quad R = 1$

1A) $3x^4 + 2x^3 + 5x^2 + 7x + 6 > 3x^4$

$m = 3 \quad R = 1$

2F) $5x^2 - 3x - 10 < 5x^2$

$M = 5 \quad R = 1$

2A) $5x^2 - (3x + 10) > 5x^2 - (3x + 10x) = 5x^2 - 13x = 4x^2 + x - 13x = 4x^2 + x\left(\frac{5}{2}x - 13\right) \geq 4x^2$

$m = 3 \quad R = 16$

↳ $x - 13 \geq 0$

$x \geq 13$

$\Rightarrow \frac{3}{5}x^2 < f(x) < \frac{23}{4}x^2$