

## AA Midterm Review

### Unit 5 - Rational expressions

Multiplying rational expressions

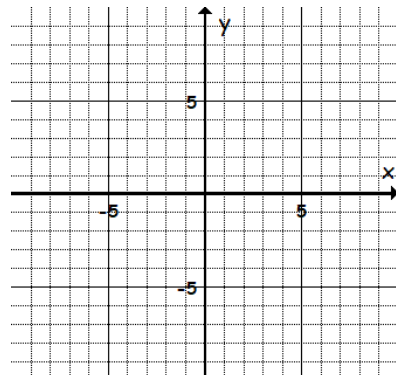
$$\frac{15-5x}{x^2-x-6} \cdot \frac{x^2+6x+8}{5x}$$

Adding rational expressions

$$\frac{2}{x+4} - \frac{x-6}{x^2-16}$$

Graphing

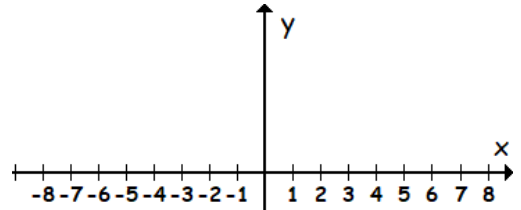
$$y = \frac{1}{x-5} + 4$$



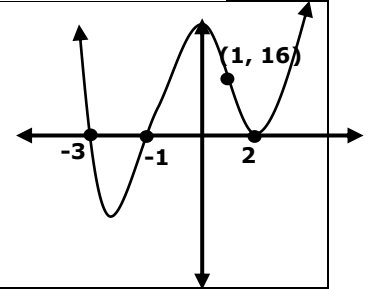
## Unit 6 -- Polynomials

factored form < -- > graph

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



Exact equations



Standard form < -- > factored form and remainder theorem

$$(x^2 - 9)(x^2 + 8x - 4) = \underline{\hspace{10em}}$$

Is  $(3,0)$  a root of  $P(x) = 2x^3 - 7x^2 + 6x - 3$

## Unit 7 - complex numbers

Standard form < -- > factored form

$$y = x^3 + 5x^2 + 9x + 45 \text{ with a root at } (-5,0)$$

$$x^3 + 3x^2 + x - 5 \text{ has a real root at } (1,0)$$