

IV. Asymptote: a line where the graph of  $y = f(x)$  approaches increasingly closer but does not intersect (in that region)... see  $f$ -gallery (p.261)

1. Vertical asymptote:

$$x = a \quad \text{when} \quad \lim_{x \rightarrow a} R(x) \rightarrow \pm\infty$$

2. Horizontal asymptote:

$$y = b \quad \text{when} \quad \lim_{x \rightarrow \pm\infty} R(x) \rightarrow b$$

3. Oblique asymptote:

$$y = mx + b \quad \text{when} \quad \lim_{x \rightarrow \pm\infty} R(x) \rightarrow mx + b$$

4. Summary for finding – see p.255

V. Examples (pp.262-263): Exercises #14-30 (even)

HW: pp.262-263 / Exercises #13-31 (odd)  
Read section 3.6 (pp.251-261)