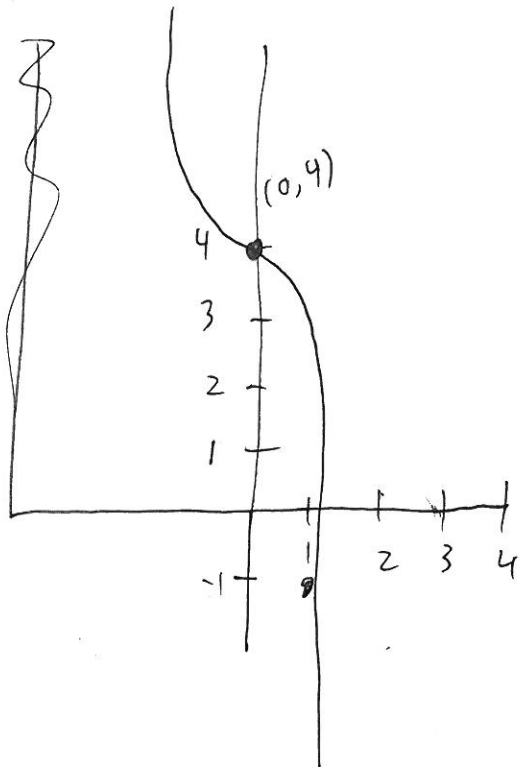


Sections 4.3 and 5.1

- Q Determine domain
- Q Find x, y intercepts
- Q Determine behavior for large x (eg $\lim_{x \rightarrow \pm\infty}$)
- Q Find vertical asymptotes
- Q Determine inc/dec intervals
- Q Find relative extrema
- Q Determine regions of concavity
- Q Find inflection points



Exercise p 294
4.3
3.7

$$f(x) = 4 - 3x - 2x^3$$

Domain: $(-\infty, \infty)$

$$f(0) = 4 \quad y \text{ intercept}$$

End behavior $\nearrow \searrow$

$$f'(x) = -6x^2 - 3$$

$$0 = -6x^2 - 3$$

$$3 = -6x^2$$

$$-\frac{1}{2} = x^2$$

always decreasing

$$f''(x) = -12x$$

$$0 = -12x$$

$x = 0$ inflection point

	$(-\infty, 0)$	$(0, \infty)$
TU	-	+
sign $f''(x)$	+	-
	UP	down

$$f(3) = 4 - 3(3) - 2(3)^3$$

$$= 4 - 9 - 27$$

$$= -32$$

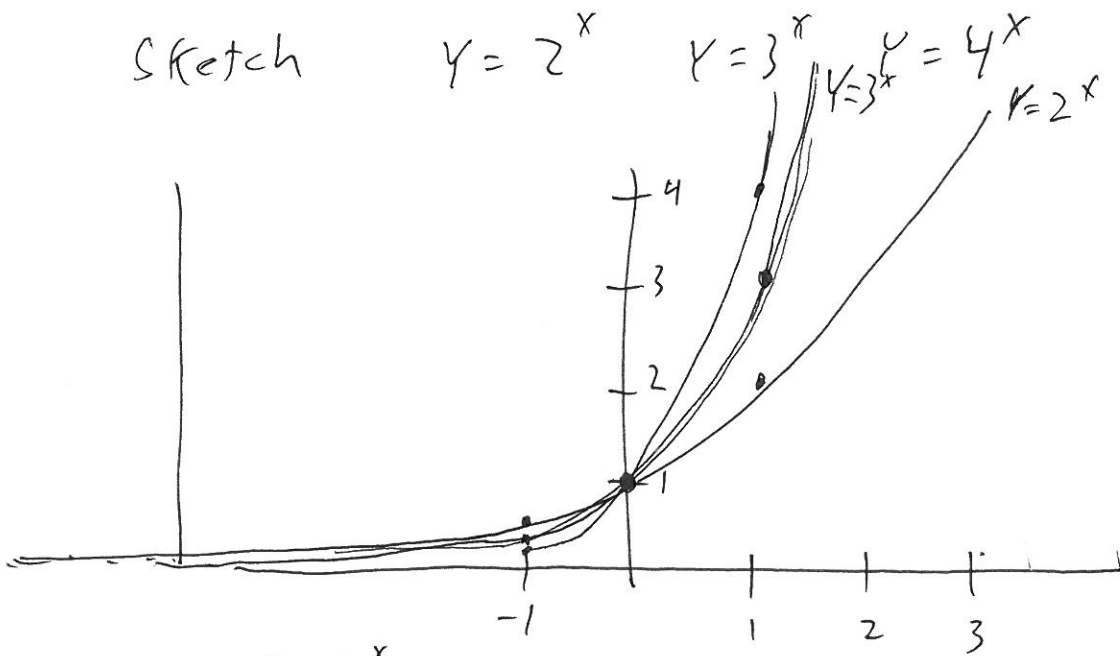
$$f(1) = 4 - 3(1) - 2(1)^3$$

$$= 4 - 3 - 2$$

$$= -1$$

5.1 Exercise 27

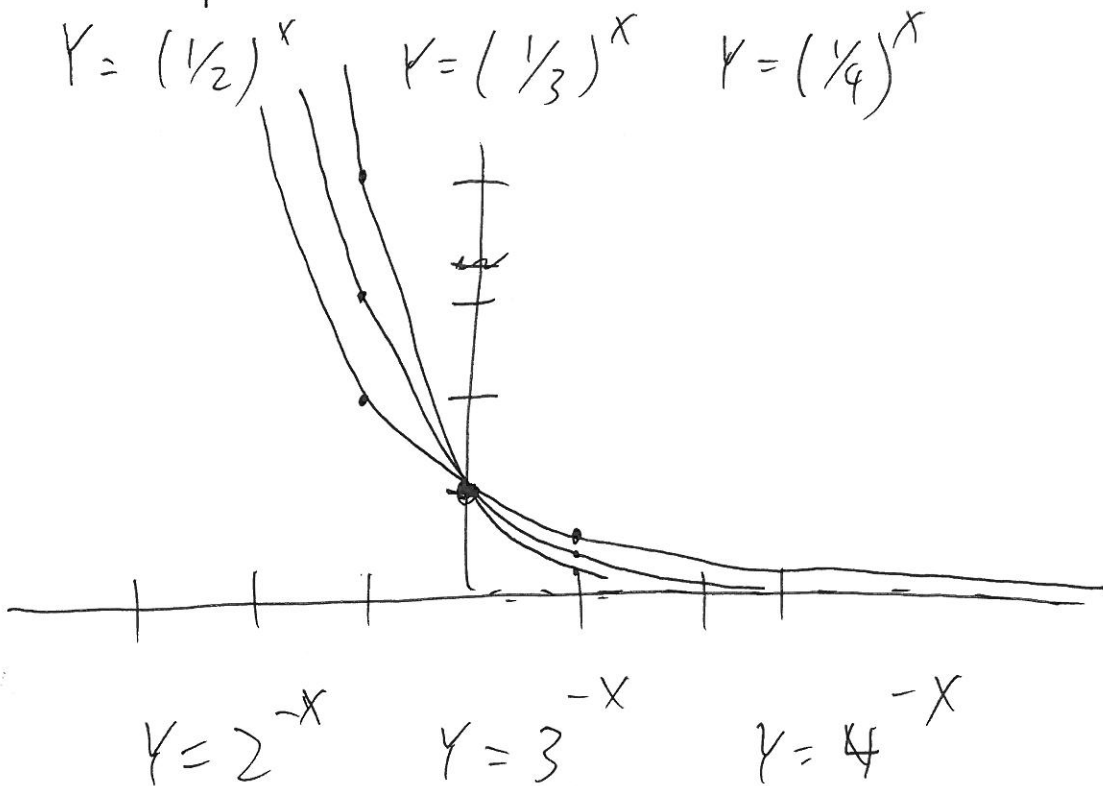
Sketch $y = 2^x$ $y = 3^x$ $y = 4^x$



x	2^x	3^x
-1	$1/2$	$1/3$
0	1	1
1	2	3

EX 28

$y = (1/2)^x$ $y = (1/3)^x$ $y = (1/4)^x$



$y = 2^{-x}$ $y = 3^{-x}$ $y = 4^{-x}$