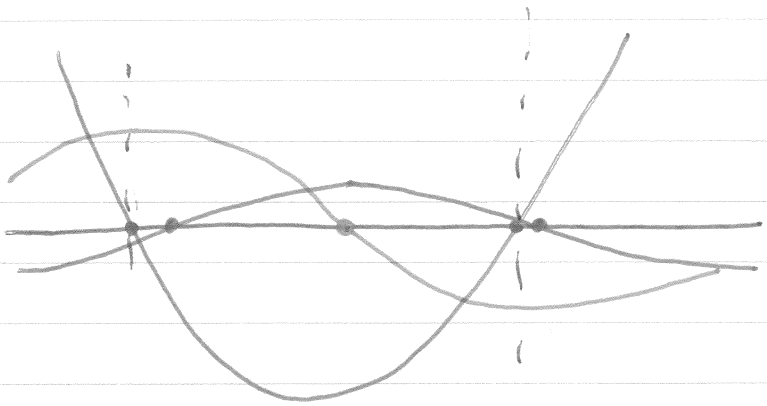
$f''(x)$ = Second derivative of $f(x)$
= Derivative of $f'(x)$ "How much $f(x)$ is curving"

$f(x)$ ⤴ $f''(x)$ +
⤵ −

Position	Velocity	Acceleration
$x(t)$	$x'(t)=v(t)$	$x''(t)=v'(t)$
		$=a(t)$



Guess:

✓ • Green is the derivative of Red:
- check the zeroes of Green. ✓
- check the sign of Green ✓

✓ • Red is the derivative of Blue.

✗ • Blue is the derivative of Red
- Passes the local max/min test
- Fails the second test (sign of the derivative should be Blue + ⇔ Red ↗, Blue − ⇔ Red ↘)

Antiderivative: Given $g(x)$, and you want to find $f(x)$ such that $f'(x)=g(x)$, then $f(x)$ is only defined up to a constant.

Ex. $g(x)=2x$ $f(x)=x^2$, $f(x)=x^2+5$, $\boxed{f(x)=x^2+C}$

Class #7: Announcements

- Quiz next class (in 2nd half). ~20 minutes = 5% grade. Problems similar to WeBWork & homework

- Diagnostic Test Stats
  Avg = 65%.

Score	%-ile
40	13
50	24
65	48
85	82

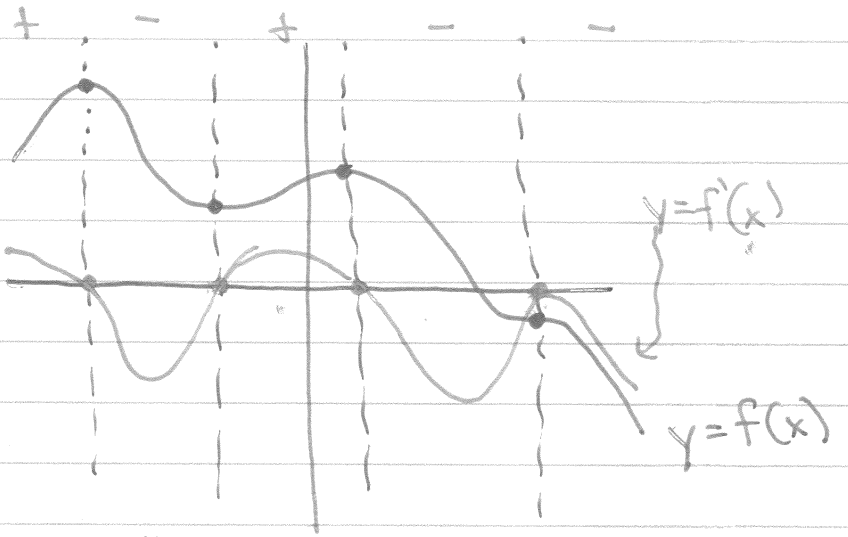
On average,
Final grade ≈ DT + 10%.

Lower DT ⇝ spend more time on background material.

Last time:

Local max
(+) ⟶ (−)

Local min
(−) ⟶ (+)



Today: • Practice Q's. $f(x)$, $f'(x)$, $f''(x)$
• Calculate derivatives numerically (spreadsheets)
• If time: Power Rule.