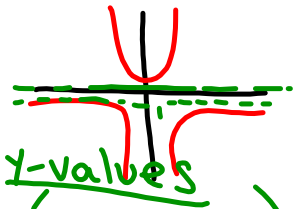
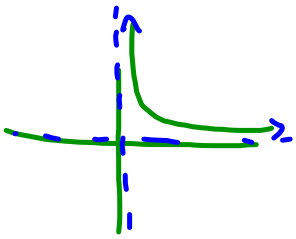
Range

19) $\frac{x^2}{1-x^2}$



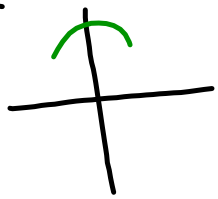


Y-values

$(-\infty,-1) \cup [0,\infty)$

18) $5+\sqrt{4-x}$

Range



15) $\dfrac{\left(\sqrt[4]{9-x}\right)}{\left((x+1)(x^2+1)\right)}$

$x+1 \neq 0$

$x \neq -1$

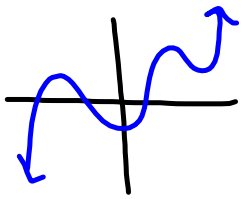
x^2+1 : imag

$(-\infty, -1) \cup (-1, 4]$

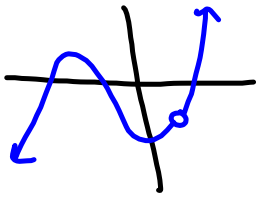
1.2 Continued

Continuity

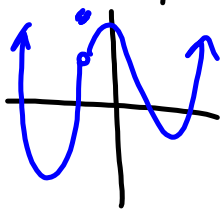
Continuous



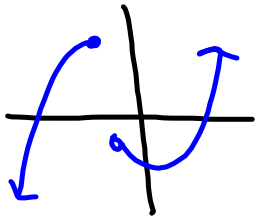
Removable Discontinuity "Hole"



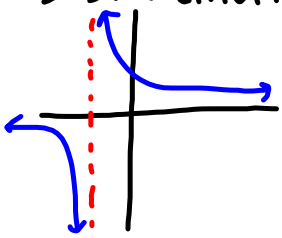
Removable Discontinuity "Hole w/ point"



Jump Discontinuity



Infinite Discontinuity

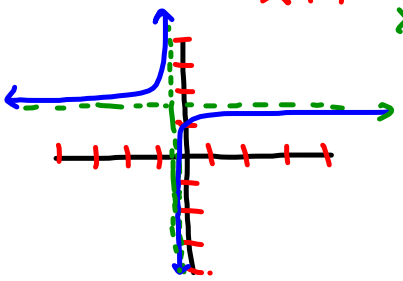


Packet ex #2

$S(x) = \frac{45x + 25}{x + 1}$ $x \neq -1$

Deg: 1 Deg: 1

coef: 45 / coef: 1 → 45

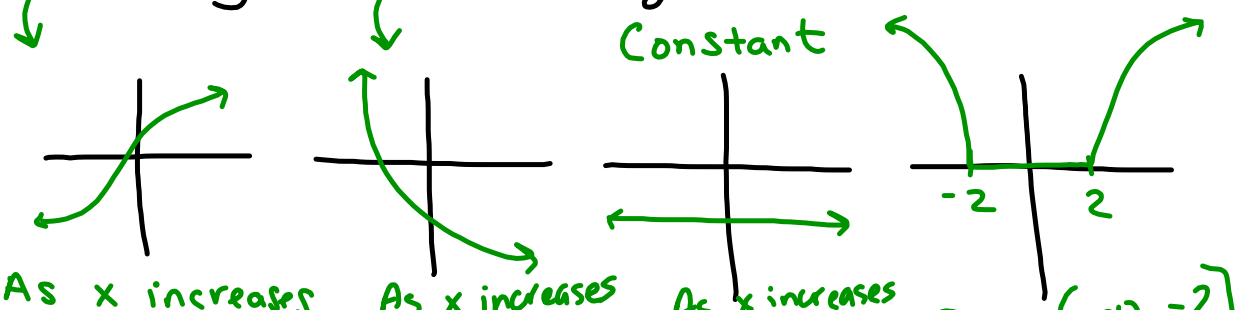


[-100,100] by [-100,100]
xscl:25 yscl:25

Domain: $(-\infty, -1) \cup (-1, \infty)$

Range: $(-\infty, 45) \cup (45, \infty)$

Increasing and Decreasing Functions



As x increases
y increases

As x increases
y decreases

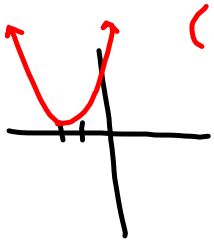
As x increases
y has no change

Decr: $(-\infty, -2]$
Const. $[-2, 2]$
Increa: $[2, \infty)$

$y = a(x-h)^2 + k$
$-2, 0$

Ex) $f(x) = (x+2)^2$

$(x+2)(x+2)$



Decreases: $(-\infty, -2]$
Increases: $[-2, \infty)$

HW p102 #21-24
#29-34