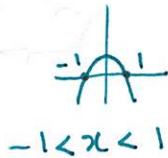


Restrictions on Logarithms – Extra Extra Practice

1) $\log_{1-x^2}(3-2x)$

$\cdot 1-x^2 > 0$



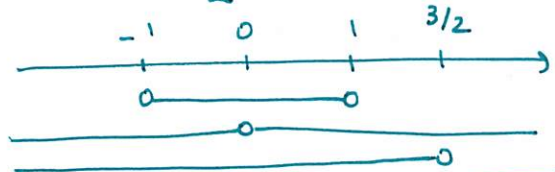
$\cdot 1-x^2 \neq 1$

$x^2 \neq 0$

$x \neq 0$

$\cdot 3-2x > 0$

$x < \frac{3}{2}$



2) $\log_{2x-4}(-2x+1)$

$\cdot 2x-4 > 0$

$2x > 4$

$x > 2$

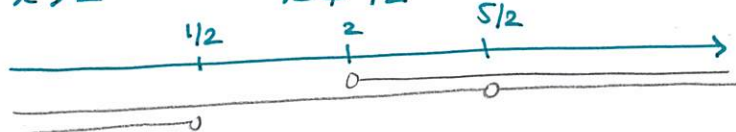
$\cdot 2x-4 \neq 1$

$2x \neq 5$

$x \neq \frac{5}{2}$

$\cdot -2x+1 > 0$

$x < \frac{1}{2}$



$D = (-1, 0) \cup (0, 1)$

$D = \emptyset$ (never exists)

3) $\log_{3-x}(x^2-16)$

$\cdot 3-x > 0$

$x < 3$

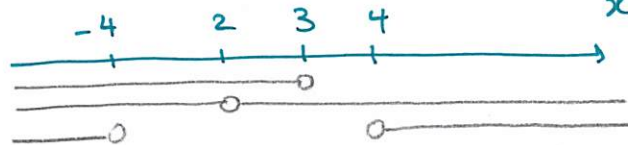
$\cdot 3-x \neq 1$

$x \neq 2$

$\cdot x^2-16 > 0$



$x < -4$ or $x > 4$



$D = (-\infty, -4)$

4) $\log_{3x+2} 2x^2$

$\cdot 3x+2 > 0$

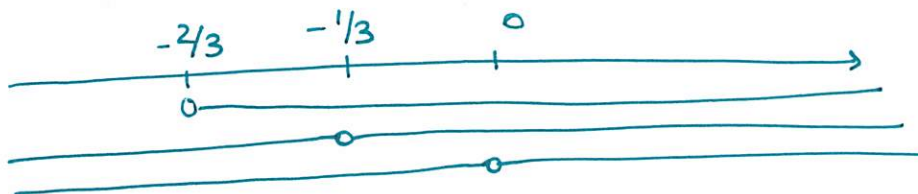
$x > -\frac{2}{3}$

$\cdot 3x+2 \neq 1$

$x \neq -\frac{1}{3}$

$\cdot 2x^2 > 0$

$x \neq 0$



$D = (-\frac{2}{3}, -\frac{1}{3}) \cup (-\frac{1}{3}, 0) \cup (0, +\infty)$