36, 37, 39, 40, 58

$f(x) = x^2 - 1$ $g(x) = 1 - 2x$

36. $f(g(-1))$ $g(-1) = 1 - 2(-1) = 3$

$f(3) = 3^2 - 1 = \boxed{8}$

$g(f(-1)) =$ $f(-1) = (-1)^2 - 1 = 0$

$g(0) = 1 - 2 \cdot 0 = \boxed{1}$

37. $f(g(2))$ $g(2) = 1 - 2 \cdot 2 = -3$

$f(-3) = (-3)^2 - 1 = \boxed{8}$

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

$g(3) = 1 - 2 \cdot 3 = \boxed{-5}$

38. $f(g(-2)) =$ $g(-2) = 1 - 2(-2) = 5$

$f(5) = 5^2 - 1 = \boxed{24}$

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

$g(3) = 1 - 2(3) = \boxed{-5}$

39. $f(f(2))$ $f(2) = 2^2 - 1 = 3$

$f(3) = 3^2 - 1 = \boxed{8}$

$f(2f(1))$ $f(1) = 1^2 - 1 = 0$

$f(2 \cdot 0) = f(0) = 0^2 - 1 = \boxed{-1}$

40. $g(g(2))$ $g(2) = 1 - 2(2) = -3$

$g(-3) = 1 - 2(-3) = \boxed{6}$

$g(2g(1))$ $g(1) = 1 - 2(1) = -1$

$g(2 \cdot -1) = g(-2) = \boxed{5}$

HW Assessment

38. $f(g(-2))$

$f(x) = x^2 - 1 \quad g(x) = 1 - 2x$

Quiz Review

- Systems of EQ
- linear inequalities
- functions
  - ↳ elvaluating: single + nested
  - ↳ Domain/Range
  - ↳ is it a function

Domain & Range

Domain : x's

Graph w/ points

D: { , , , , }

Graph w/ lines

D: ___ ≤ x ≤ ___

D: ℝ

Domain from an EQ

- division D: x ≠ ~~~ numbers that make your denom zero.

$$f(x) = \frac{4x}{3x-8}$$

$3x - 8 = 0$

$3x = 8$

$x = 8/3$

D: $x \neq 8/3$

- $\sqrt{\text{stuff}}$ ← square root

stuff ≥ 0

Linear inequalities

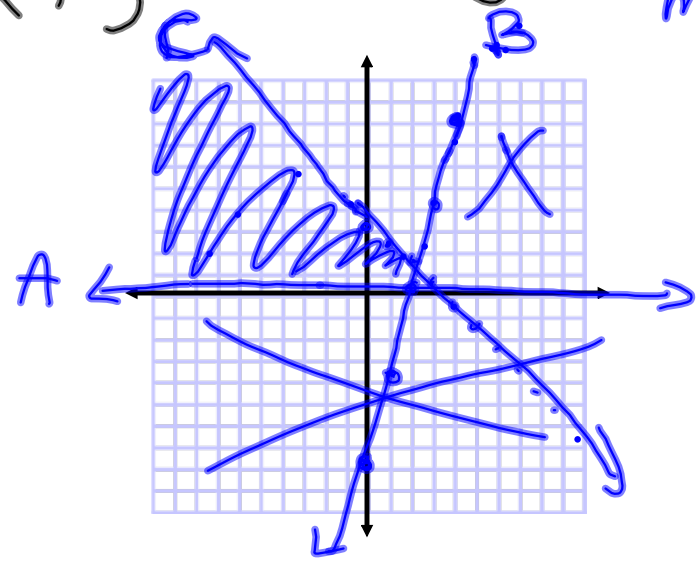
A $y \geq 0$

B $y \geq \frac{4}{1}x - 8$

C $x + y \leq 3 \Rightarrow y \leq 3 - x$ $m = -\frac{1}{1}$

1) solve for y

2) Graph



Systems of EQ

1) simplify

$3x - 2y = 6$

$5x + 3y + 9 = 0$
$\quad\quad -9$

$(3x - 2y = 6)5$

$(5x + 3y = -9)3$

$15x - 10y = 30$

$+ \; -15x + 9y = +27$

$-19y = 57$

$\frac{-19y}{-19} = \frac{57}{-19}$

$y = -3$

$3x - 2(-3) = 6$

$3x + 6 = 6$
$\quad -6$

$\frac{3x}{3} = \frac{0}{3}$

$x = 0$

$(0, -3)$

---

solved and end up w/

$0 = 0$

Answer is not $\mathbb{R}$

Answer is the EQ of the line in $y = mx + b$

just take one of the EQ and solve for y.