$\qquad$ Date: $\qquad$

1. Find the solution region of the following systems of linear inequalities. Assume $x \in \mathbb{R}$ and $y \in \mathbb{R}$.
a.

$$
\begin{gathered}
y>-\frac{3}{4} x+4 \\
y>\frac{1}{2} x-1
\end{gathered}
$$


b.

$$
\begin{gathered}
y \geq-\frac{5}{2} x+10 \\
y \leq \frac{1}{2} x+4
\end{gathered}
$$


c.

$$
\begin{gathered}
y<2 x+2 \\
y \leq-2
\end{gathered}
$$

d.

$$
\begin{gathered}
x-2 y \geq 6 \\
x \leq 2
\end{gathered}
$$

2. Find the solution region of the following systems of linear inequalities. Assume $x \in \mathbb{Z}$ and $y \in \mathbb{Z}$
a.

$$
\begin{gathered}
y>\frac{3}{2} x+3 \\
y>-3
\end{gathered}
$$

b.

$$
\begin{gathered}
2 x+3 y \geq-9 \\
x \leq-3
\end{gathered}
$$





Handout
Quiz Next Day!
c.

$$
\begin{aligned}
5 x-4 y & >20 \\
x+4 y & <8
\end{aligned}
$$

d.

$$
\begin{gathered}
\frac{1}{2} x+\frac{1}{3} y \geq-1 \\
y \geq \frac{1}{4} x-3
\end{gathered}
$$

3. Find the solution region of the following systems of linear inequalities. Assume $x \in \mathbb{W}$ and $y \in \mathbb{W}$
a.

$$
\begin{gathered}
y>4 x-10 \\
y>\frac{1}{3} x+1
\end{gathered}
$$


b.

$$
\begin{gathered}
x-2 y \geq-6 \\
3 x+2 y \geq 2
\end{gathered}
$$

C.

$$
\begin{gathered}
y-3>-2(x-5) \\
y+1>\frac{1}{2}(x+1)
\end{gathered}
$$

d.

$$
\begin{aligned}
& y \geq \frac{1}{3} x-1 \\
& y \leq \frac{4}{3} x+2
\end{aligned}
$$

Assignment



Handout
4. Find the solution region of the following systems of linear inequalities. Assume $x \in \mathbb{N}$ and $y \in \mathbb{N}$
e.

$$
2 x+y<-3
$$

$$
2 x-y \leq-1
$$

f.

$$
\begin{gathered}
y>2 x+2 \\
y \geq-2
\end{gathered}
$$



g.

$$
\begin{gathered}
3 x+y>-3 \\
x+2 y>4
\end{gathered}
$$

h.
$y<\frac{5}{3} x+2$
$y<4 x-4$

