

- 1) Line passes through (2,4)
- 2) Has the same y intercept as $x-4y=8$.

Solution:

- 1) To find the y intercept of the line $x-4y=8$, set $x=0$.

$$0-4y=8 \quad \text{set } x=0 \text{ to isolate } y$$

$$\frac{-4y}{-4} = \frac{8}{-4} \quad \text{divide both sides by } -4$$

$$y=-2$$

- 2) To find the slope, solve for m in $y=mx+b$.

$$4=m(2)-2 \quad \text{replace } y \text{ with } 4, x \text{ with } 2 \text{ and } b \text{ with } -2$$

$$4=2m-2$$

$$4+2=2m \quad \text{move the } 2 \text{ to the right side}$$

$$6=2m \quad \text{add}$$

$$\frac{6}{2} = m \quad \text{divide both sides by } 2 \quad \text{to get } m=3$$

- 3) Write the final form as $y=3x-2$