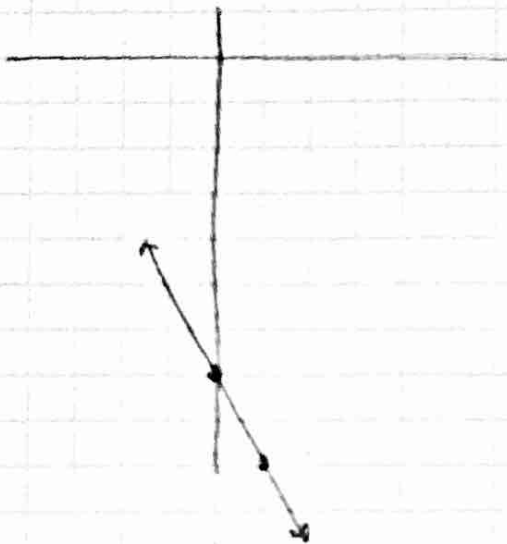


HW 42

p250

1. $m: -2$, y -int: -7



4. m : undef. y -int: -3

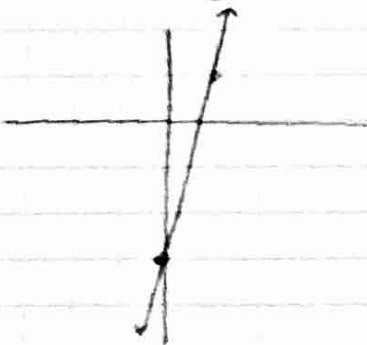


9. $m = \frac{-4 - 4}{-3 - 4} = \frac{-8}{-9} = \boxed{8/9}$

18. $m = \frac{-1 - (-1)}{4 - 2} = \frac{0}{2} = 0$

$$\boxed{y = -1}$$

2. $m: 4$, y -int: -3



19. $m = \frac{2 - 0}{4 - (-1)} = \frac{2}{5}$

$$0 = \frac{2}{5}(-1) + b$$

$$\frac{2}{5} = b$$

$$\boxed{y = \frac{2}{5}x + \frac{2}{5}}$$

3. $m: 0$ y -int: 6



20. $m = \frac{-1 + 2}{4 - 11} = \frac{1}{-7}$

$$-2 = -\frac{1}{7}(11) + b$$

$$-\frac{10}{7} = -\frac{11}{7} + b$$

$$\frac{1}{7} = b$$

$$\boxed{y = -\frac{1}{7}x + \frac{1}{7}}$$

Slope: $5/4$

$$\begin{aligned} 21. a) \quad y &= 5/4 x + b \\ -2 &= 5/4(3) + b \\ -8/4 &= 15/4 + b \\ -23/4 &= b \end{aligned}$$

$$\boxed{y = 5/4 x - 23/4}$$

$$\begin{aligned} b) \quad y &= -4/5 x + b \\ -2 &= -4/5(3) + b \\ -10/5 &= -12/5 + b \\ 2/5 &= b \end{aligned}$$

$$\boxed{y = -4/5 x + 2/5}$$

$$22. \quad m = -2/3$$

$$\begin{aligned} a) \quad y &= -2/3 x + b \\ 3 &= -2/3(8) + b \\ 9/3 &= -24/3 + b \\ 33/3 &= b \end{aligned}$$

$$\boxed{y = -2/3 x + 11}$$

$$\begin{aligned} b) \quad y &= 3/2 x + b \\ 3 &= 3/2(8) + b \\ 3 &= 12 + b \\ -9 &= b \end{aligned}$$

$$\boxed{y = 3/2 x - 9}$$

$$23. \quad (10, 12500)$$

$$\begin{aligned} m &= -850 \\ 12500 &= -850(10) + b \\ 21,000 &= b \end{aligned}$$

$$\boxed{y = -850x + 21,000}$$

$$24. \quad (10, 72.95) \quad m = 5.15$$

$$\begin{aligned} 72.95 &= 5.15(10) + b \\ 21.45 &= b \end{aligned}$$

$$\boxed{y = 5.15x + 21.45}$$

$$25. \quad |10x| = y^4$$

$$\pm \sqrt[4]{|10x|} = y$$

$\boxed{\text{no}}$

$$26. \quad 2x - 3 = y$$

$\boxed{\text{yes}}$

$$\begin{aligned} 29. \quad a) \quad f(2) &= 4 + 1 = 5 \\ b) \quad f(-4) &= 16 + 1 = 17 \\ c) \quad f(t^2) &= t^4 + 1 \\ d) \quad f(t+1) &= (t+1)^2 + 1 \\ &= t^2 + 2t + 1 + 1 \\ &= t^2 + 2t + 2 \end{aligned}$$

$$\begin{aligned} 31. \quad a) \quad 2(-2) + 1 &= -3 \\ b) \quad 2(-1) + 1 &= -1 \\ d) \quad 2^2 + 2 &= 6 \end{aligned}$$

$$\begin{aligned} 33. \quad 25 - x^2 &\geq 0 \\ 25 &\geq x^2 \quad -5 \leq x \leq 5 \\ \pm 5 &= x \end{aligned}$$

$$\boxed{[-5, 5]}$$

$$\begin{aligned} 34. \quad 3s - 9 &= 0 \\ 3s &= 9 \\ s &= 3 \end{aligned}$$

$$\boxed{(-\infty, 3) \cup (3, \infty)}$$

$$\begin{aligned} 35. \quad x^2 - x - 6 &= 0 \\ (x-3)(x+2) &= 0 \\ x &= 3, -2 \end{aligned}$$

$$\begin{aligned} &\boxed{(-\infty, -2) \cup (-2, 3) \cup (3, \infty)} \\ &\text{AKA} \\ &\boxed{x \neq 3, x \neq -2} \end{aligned}$$

$$36. \quad (-\infty, \infty)$$