

Algebra II
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1) $f(x) = 2x + 3$	11) $F(x) = -\frac{3}{2}x + 5$	21) $F(x) = -\frac{2}{3}x - \frac{1}{2}$
2) $F(x) = -x + \frac{1}{2}$	12) $F(x) = \frac{2}{3}x - 6$	22) $F(x) = -\frac{2}{3}x + 11$
3) $F(x) = 3x + 1$	13) $F(x) = 2x + 1$	23) $(0, -5)$ and $(-1, -8)$
4) $F(x) = -\frac{3}{2}x - \frac{1}{2}$	14) $F(x) = 3x - 2$	24) $(0, -2)$ $(-2, -5)$
5) $F(x) = \frac{1}{2}x - 2$	15) $F(x) = -3$	25) $(0, 2)$ $(3, \frac{1}{2})$
6) $F(x) = -x + 1$	16) $F(x) = -2x$	26) $(5, -3)$ $(1, -\frac{1}{3})$
7) $F(x) = 2x + 1$	17) $F(x) = 3x - 1$	27) $f(3) = -8$, $f(0) = \frac{11}{2}$
8) $F(x) = -3x - 1$	18) $F(x) = -3x + 12$	28) $f(10) = 28$, $f(100) = 137$
9) $F(x) = 2x + 3$	19) $F(x) = -\frac{3}{2}x$	29) $f(10) = -10$, $f(20) = -\frac{70}{3}$
10) $F(x) = -x + 5$	20) $F(x) = 2$	30) $f(2) = -7$, $f(50) = 25$

7) $F(0, 1)$; $F(x)$ increases by 6
 x increases by 3 $m = \frac{6}{3} = 2$

$F(x) = 2x + b$

Temp $\begin{cases} 1 = 2(0) + b \\ 1 = b \end{cases}$

$F(x) = 2x + 1$

20) $F(-1) = 2$ $(-1, 2)$
 $F(2) = 2$ $(2, 2)$

$F(x) = mx + b$

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 2}{2 - (-1)} = \frac{0}{3} = 0$

$y = 2$

2) $F(0) = 1$; $F(x)$ increases by 6
 $(0, 1)$ x increases by 3 $m = \frac{6}{3} = 2$

$F(x) = 2x + b$

Temp $\begin{cases} 1 = 2(0) + b \\ 1 = b \end{cases}$

$F(x) = 2x + 1$

19) $F(-2) = 3$ $F(2) = -3$
 $(-2, 3)$ $(2, -3)$

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-3 - 3}{2 - (-2)} = \frac{-6}{4}$

$F(x) = -\frac{3}{2}x + b$

$\begin{cases} 3 = -\frac{3}{2}(-2) + b \\ 3 = 3 + b \\ 0 = b \end{cases}$ $F(x) = -\frac{3}{2}x$

24)

x	g(x)
2	1
4	4
0	-2
-2	25

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - 1}{4 - 2} = \frac{3}{2}$

$g(x) = \frac{3}{2}x + b$

Temp $\begin{cases} 1 = \frac{3}{2}(2) + b \\ 1 = 3 + b \\ -2 = b \end{cases}$

$g(x) = \frac{3}{2}x - 2$

$2 - 2 = \frac{3}{2}x - 2 + 2$

$(0 = \frac{3}{2}x) \cdot 2$

$0 = 3x$ $x = 0$

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

30) $F(5) = -5$
 $F(-25) = -25$
 $F(2) = ? \rightarrow$
 $F(50) = ? \rightarrow 25$

x	F(x)
5	-5
-25	-25
* 2	? \rightarrow
* 50	? 25

$m = \frac{-25 - (-5)}{-25 - 5} = \frac{-20}{-30} = \frac{2}{3}$

$F(x) = \frac{2}{3}x + b$

$-5 = \frac{2}{3}(5) + b$
 $-5 = \frac{10}{3} + b$
 $-\frac{15}{3} - \frac{10}{3} = \frac{10}{3} - \frac{10}{3} + b$
 $-\frac{25}{3} = b$

$F(x) = \frac{2}{3}x - \frac{25}{3}$

$F(50) = \frac{2}{3}(50) - \frac{25}{3}$
 $\frac{100}{3} - \frac{25}{3} = \frac{75}{3} = 25$

$F(2) = \frac{2}{3}(2) - \frac{25}{3}$
 $= \frac{4}{3} - \frac{25}{3} = -\frac{21}{3} = -7$