Choosing Smart x's: ① Choose 0
② Choose denominator
③ Choose negative of denominator

Principles of Algebra Name/Date Clee / Today

WS 6F.1 – Graphing Equations by the Table Method

Find solutions to each equation to complete the table, then graph the equation. Remember to solve for y!

1. $\frac{2y}{2} = \frac{3x}{2} + \frac{4}{2}$

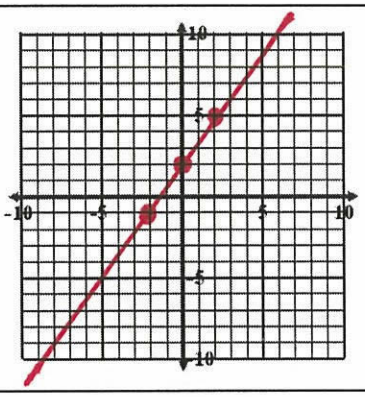
$y = \frac{3}{2}x + 2$

$x=0$: $y = \frac{3}{2}(0) + 2$, $y = 2$

$x=2$: $y = \frac{3}{2}(2) + 2$, $y = 5$

$x=-2$: $y = \frac{3}{2}(-2) + 2$, $y = -1$

x	y
0	2
2	5
-2	-1



2. $x + 4y = 20$
$-x \quad -x$

$\frac{4y}{4} = \frac{-1x}{4} + \frac{20}{4}$

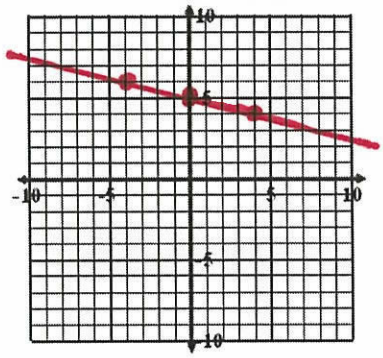
$y = -\frac{1}{4}x + 5$

$x=0$: $y = -\frac{1}{4}(0) + 5$, $y = 5$

$x=4$: $y = -\frac{1}{4}(4) + 5$, $y = 4$

$x=-4$: $y = -\frac{1}{4}(-4) + 5$, $y = 6$

x	y
0	5
4	4
-4	6



3. $\frac{-y}{-1} = \frac{4x}{-1} + \frac{4}{-1}$

$y = -4x - 4$

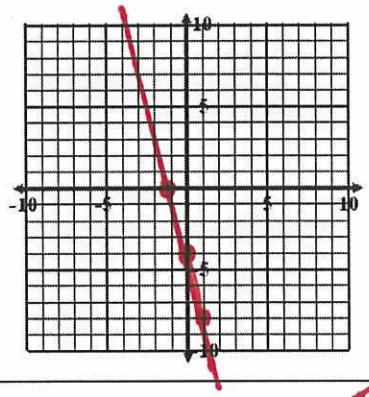
Since there is no denominator, just about every x will be a smart x.

$x=0$: $y = -4(0) - 4$, $y = -4$

$x=1$: $y = -4(1) - 4$, $y = -8$

$x=-1$: $y = -4(-1) - 4$, $y = 0$

x	y
0	-4
1	-8
-1	0



4. $3y - 12 = 2x$
$+12 \quad +12$

$\frac{3y}{3} = \frac{2x}{3} + \frac{12}{3}$

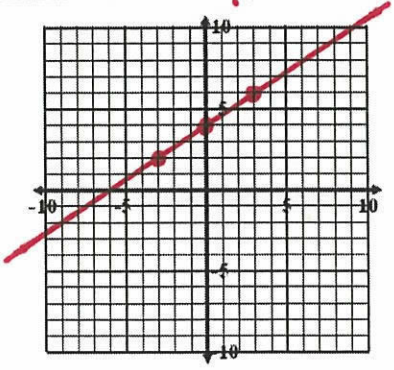
$y = \frac{2}{3}x + 4$

$x=0$: $y = \frac{2}{3}(0) + 4$, $y = 4$

$x=3$: $y = \frac{2}{3}(3) + 4$, $y = 6$

$x=-3$: $y = \frac{2}{3}(-3) + 4$, $y = 2$

x	y
0	4
3	6
-3	2



5. $5y - x = -30$

$+x \quad +x$

$\frac{5y}{5} = \frac{1x}{5} - \frac{30}{5}$

$y = \frac{1}{5}x - 6$

$x=0$: $y = \frac{1}{5}(0) - 6$

$y = -6$

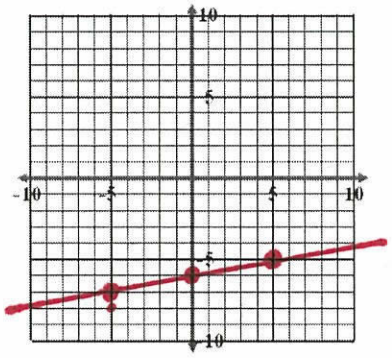
$x=5$: $y = \frac{1}{5}(5) - 6$

$y = -5$

$x=-5$: $y = \frac{1}{5}(-5) - 6$

$y = -7$

x	y
0	-6
5	-5
-5	-7



6. $-2x + 5y = -10$

$+2x \quad +2x$

$\frac{5y}{5} = \frac{2x}{5} - \frac{10}{5}$

$y = \frac{2}{5}x - 2$

$x=0$: $y = \frac{2}{5}(0) - 2$

$y = -2$

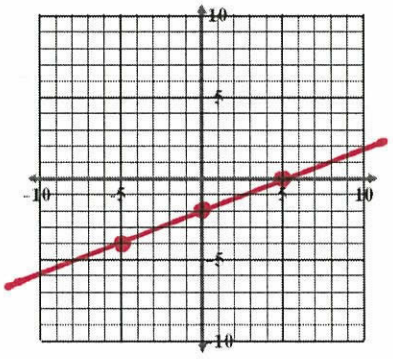
$x=5$: $y = \frac{2}{5}(5) - 2$

$y = 0$

$x=-5$: $y = \frac{2}{5}(-5) - 2$

$y = -4$

x	y
0	-2
5	0
-5	-4



7. $y = -\frac{1}{9}x + 3$

Already solved for y.

$x=0$: $y = -\frac{1}{9}(0) + 3$

$y = 3$

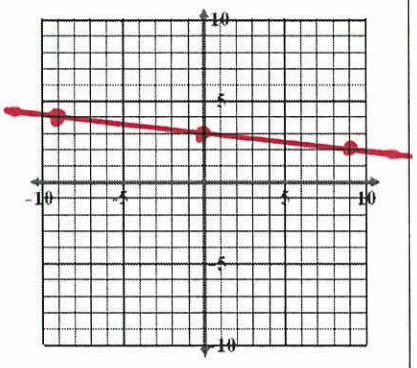
$x=9$: $y = -\frac{1}{9}(9) + 3$

$y = 2$

$x=-9$: $y = -\frac{1}{9}(-9) + 3$

$y = 4$

x	y
0	3
9	2
-9	4



8. $y = 4$

Already solved for y.

Choose any x-value.

$x=0$: $y=4$

$x=2$: $y=4$

$x=-2$: $y=4$

No matter what value we choose for x, y is ALWAYS 4.

Horizontal line

x	y
0	4
2	4
-2	4