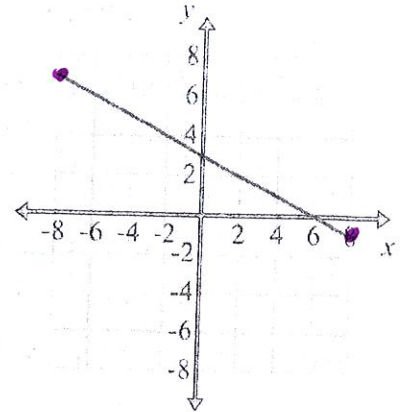


Characteristics of Linear Functions Practice Worksheet A

Name _____

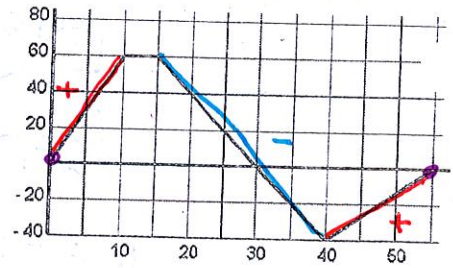
Date _____

1. Domain: $[-8, 8]$ OR $-8 \leq x \leq 8$ Range: $[-1, 7]$ OR $-1 \leq y \leq 7$
 x-intercept: $(6, 0)$ y-intercept: $(0, 3)$
 Increasing: none Decreasing: $[-8, 8]$
 Constant: none Slope: $-\frac{1}{2}$
 End Behavior: As RIGHT $x \rightarrow +\infty$ $f(x) \rightarrow$ -1
 As LEFT $x \rightarrow -\infty$ $f(x) \rightarrow$ 7

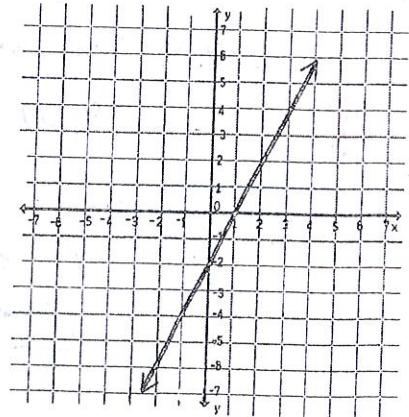


Equation: $y = -\frac{1}{2}x + 3$

2. Domain: $[0, 55]$ OR $0 \leq x \leq 55$ Range: $[-40, 60]$ OR $-40 \leq y \leq 60$
 x-intercept: $(30, 0)$ $(0, 0)$ y-intercept: $(0, 0)$
 Increasing: $(0, 10)$, $(40, 55)$ Decreasing: $(15, 40)$
 Constant: $(10, 15)$ Slope: $6; 0; -4, \frac{8}{3}$
 End Behavior: As RIGHT $x \rightarrow +\infty$ $f(x) \rightarrow$ 0
 As LEFT $x \rightarrow -\infty$ $f(x) \rightarrow$ 0



3. Domain: $(-\infty, \infty)$ OR $-\infty < x < \infty$ Range: $(-\infty, \infty)$ OR $-\infty < y < \infty$
 x-intercept: $(1, 0)$ y-intercept: $(0, -2)$
 Increasing: $(-\infty, \infty)$ Decreasing: none
 Constant: none Slope: -2
 End Behavior: As RIGHT $x \rightarrow +\infty$ $f(x) \rightarrow$ ∞
 As LEFT $x \rightarrow -\infty$ $f(x) \rightarrow$ $-\infty$



Equation: $y = -2x - 2$

4. Domain: $[-8, 8]$ OR $-8 \leq x \leq 8$ Range: $[-1.5, 4]$ OR $-1.5 \leq y \leq 4$

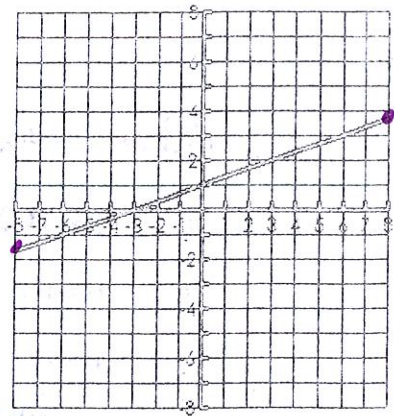
x-intercept: $(-3, 0)$ y-intercept: $(0, 1)$

Increasing: $(-\infty, \infty)$ Decreasing: none

Constant: none Slope: $\frac{1}{3}$

End Behavior: As $x \rightarrow +\infty$, $f(x) \rightarrow 4$

As $x \rightarrow -\infty$, $f(x) \rightarrow -1.5$



Equation: $y = \frac{1}{3}x + 1$

5. Domain: $[-7, 1]$ OR $-7 \leq x \leq 1$ Range: $[-8, 8]$ OR $-8 \leq y \leq 8$

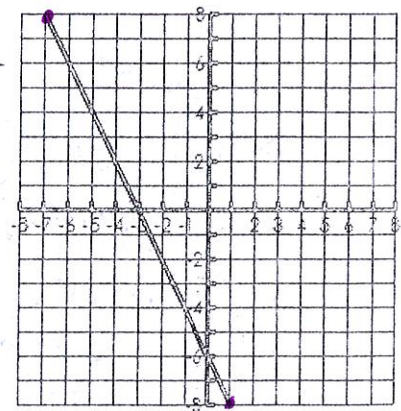
x-intercept: $(-3, 0)$ y-intercept: $(0, -6)$

Increasing: none Decreasing: $(-\infty, \infty)$

Constant: none Slope: -2

End Behavior: As $x \rightarrow +\infty$, $f(x) \rightarrow -8$

As $x \rightarrow -\infty$, $f(x) \rightarrow 8$



Equation: $y = -2x - 6$

6. Graph the line and write the characteristics. $f(x) = -\frac{1}{2}x + 4$

Domain: $(-\infty, \infty)$ OR $-\infty < x < \infty$ Range: $(-\infty, \infty)$ OR $-\infty < y < \infty$

* x-intercept: $(8, 0)$ y-intercept: $(0, 4)$

Increasing: none Decreasing: $(-\infty, \infty)$

Constant: none Slope: $-\frac{1}{2}$

End Behavior: As $x \rightarrow +\infty$, $f(x) \rightarrow -\infty$

As $x \rightarrow -\infty$, $f(x) \rightarrow \infty$

