

# Homework Assignments

## Chapter 6: Linear Equations

All homework is done in a notebook or on loose leaf. Unless problem is meant to be a “mental” problem, all work should be shown.

If assigned the alternate evens, do these problems:

2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 42, 46, 50, 54, 58, 62, 66, 70, 74, 78, 82, 86, 90, 94, 98, 102, etc

### Homework

- Section 6-1: pgs.286-289 : 2-50 alternate evens; 54-60 all; 62-70 evens - Slope
- Section 6-2: pgs. 294-296 : 2-82 alternate evens; plus 56, 68, 76 – Slope-Intercept Form
- Section 6-3: pgs.301-302: 2-62 alternate evens; 36, 47, 48, 57, 63 – Standard Form
- Section 6-4: pgs.307-309 : 2-62 alternate evens; 56, 60, 61, 63, 64 – Point-Slope Form
- Section 6-5: pgs.314-316 : 2-70 alternate evens; 31, 52, 57, 59, 64, 72 – Parallel and Perpendicular Lines
- Section 6-6: pgs. 320-323: 2-20 evens, not 18, do 17 – Line of Best Fit
- Section 6-7: pgs. 327-329: 2-38 alternate evens, 11, 19, 24, 28, 29, 31, 32, 33, 35, 36, 37, 39, 40, 41 – Absolute Value
- Chapter Test: pg. 334: 1-37 all – Extra Credit due day of Test

### Chapter Overview

**Slope:**  $\frac{\text{rise}}{\text{run}}$  = for any two ordered pairs  $(x_1, y_1)$  and  $(x_2, y_2)$  on a line :  $\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$  rate of change

**Slope-Intercept Equation Form of a Line:**  $y = mx + b$  where  $m$  = slope and  $b$  = y-intercept

**Standard Equation Form of a Line:**  $Ax + By = C$  where  $A$ ,  $B$  and  $C$  are integers;  $A$  &  $B$  are not both zero

**x-intercept:**  $(x, 0)$ ; the point at which a line crosses the x-axis

**y-intercept:**  $(0, y)$ ; the point at which a line crosses the y-axis

**Point-Slope Equation Form of a Line:**  $y - y_1 = m(x - x_1)$  where  $(x_1, y_1)$  is a point on the line and  $m$  is the slope

**Parallel Lines:** lines with the same slope

**Perpendicular Lines:** lines with slopes that are negative reciprocals of each other; product of their slopes is  $-1$ .

**Line of Best Fit:** given a set or ordered pairs (i.e. scatter plot), the line of best fit is the line that most closely aligns with / passes through the points on the graph

**Correlation Coefficient:** a value that ranges from  $-1$  to  $1$  that determines how well the line of best fit fits. The closer the value is to  $-1$  or  $+1$  the better the fit or correlation; the closer the value is to zero the less correlation there is between the line and the points

**Absolute Value Equation Form:**  $y = a |x - b| + c$  where  $a$  determines the direction the graph opens (pos = up; neg = down); the point  $(b,c)$  is the vertex (turning point);  $b$  shifts the graph left or right;  $c$  shifts the graph up or down

**Translation:** the shifting of a graph caused by changing numeric values in the equation of the graph (i.e. the affect  $a$ ,  $b$  &  $c$  have on linear, absolute value and quadratic equations in standard form)