

Calculus BC
Summer Assignment 1 from Kennedy book

3. Find the slope and distance between A and B
A(-3, 1) B(-8, 1)
6. L is the line from A(-2, -1) to B(1, -2)
a) Plot A and B
b) Find the slope of L
c) Graph L
7. L is the line from A(2, -3) to B(-1, 3)
a) Plot A and B
b) Find the slope of L
c) Graph L
9. Write an equation for the Horizontal and the vertical line through (2, 3)
12. Write an equation for the Horizontal and the vertical line through $(-\pi, 0)$
15. Write the point slope equation for the line through (0, 3) with a slope of 2.
18. Write the general form equation of the line that passes through (1, 1) and (2, 1)
20. Write the general form equation of the line that passes through (-2, 1) and (2, -2)
21. Write the slope-intercept form of the line with a slope of 3 and a y-intercept of -2.
24. Write the slope-intercept form of the line with a slope of $1/3$ and a y-intercept of -1.
27. Find the slope, the y-intercept and graph the line $3x + 4y = 12$.
30. Find the slope, the y-intercept and graph the line $y = 2x + 4$.
33. Write the equation of a line parallel and a line perpendicular to the line $x = 5$ through point (-2, 4)

35. Given the table of values for the linear function $f(x)$, find the slope and the y-intercept

x	f(x)
1	2
3	9
5	16

36. Given the table of values for the linear function $f(x)$, find the slope and the y-intercept

x	f(x)
2	-1
4	4
6	-7

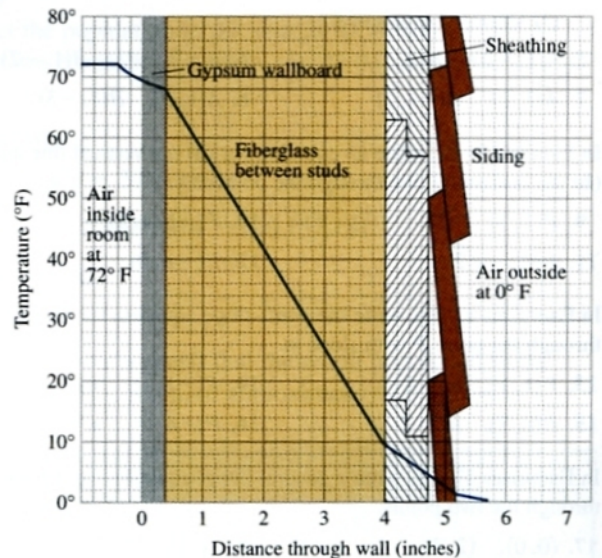
39. The table below lists the ages and weights of nine girls.
- Find the linear regression for the data.
 - Find the slope of the regression line. What does the slope represent?
 - Superimpose the graph of the linear regression equation on a scatter plot of the data.
 - Use the regression equation to predict the approximate weight of a 30-month-old-girl.

Age (months)	Weight (pounds)
19	22
21	23
24	25
27	28
29	31
31	28
34	32
38	34
43	39

40. The table shows the mean annual compensation of constructions workers.
- Find the linear regression for the data.
 - Find the slope of the regression line. What does the slope represent?
 - Superimpose the graph of the linear regression equation on a scatter plot of the data.
 - Use the regression equation to predict the construction workers' average annual compensation in the year 2000.

Year	Annual Compensation (dollars)
1980	22,033
1985	27,581
1988	30,466
1989	31,465
1990	32,836

44. By measuring the slopes in the figure below, find the temperature change in degrees per inch for the following materials.
- gypsum wallboard
 - fiberglass insulation
 - wood sheathing
 - Which of the materials in (a) through (c) is the best insulator and the poorest insulator? Explain.



46. A car starts from point P at time $t = 0$ and travels 45 mph.
- write an expression $d(t)$ for the distance the car travels from P.
 - Graph $y = d(t)$.
 - What is the slope of the graph in b)? What does it have to do with the car?
 - Create a scenario in which t could have negative values.
 - Create a scenario in which the y -intercept of $d(t)$ could be 30.