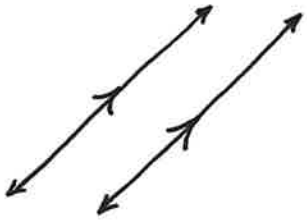
MATH 0482
Chapter 2.3 Modeling Linear Functions

PARALLEL LINES



PERPENDICULAR LINES

SLOPE-INTERCEPT: $y = mx + b$ POINT-SLOPE: $y - y_1 = m(x - x_1)$

FIND THE EQUATION OF THE LINE PASSING THROUGH $(-3, 6)$ AND $(5, -4)$.

FIND THE EQUATION OF THE LINE PASSING THROUGH $(-1, -2)$ AND $(4, 1)$.

FIND THE EQUATION OF THE LINE PASSING THROUGH $(3,-2)$ AND PARALLEL TO $x-2y=-2$.

FIND THE EQUATION OF THE LINE PASSING THROUGH $(-5,-2)$ AND PERPENDICULAR TO $x+4y=4$.

THE COST OF A DAILY TRUCK RENTAL IS \$48.00, PLUS AN ADDITIONAL \$0.45 FOR EVERY MILE DRIVEN. WRITE A FUNCTION FOR THE COST OF THE DAILY TRUCK RENTAL AND FIND THE COST OF RENTING THE TRUCK FOR DRIVING IT 60 MILES.

A COMPANY PURCHASED A NEW PIECE OF EQUIPMENT FOR $12000. FOUR YEARS LATER, IT WAS VALUED AT $9000. WRITE A FUNCTION FOR THE VALUE OVER TIME.

THE COST IN DOLLARS OF PRODUCING N ITEMS IS GIVEN BY THE FORMULA $C(N) = 62N + 5280$. THE REVENUE IN DOLLARS IS GIVEN BY THE FORMULA $R(N) = 150N$. WRITE A PROFIT FUNCTION AND DETERMINE N TO EARN A PROFIT OF $7000 (AT LEAST).