

1. (1ea) Determine the *slope* of the following lines:
 - (a) L_1 , which passes through $(-7, 10)$ and $(11, -4)$.

 - (b) L_2 , which is perpendicular to the line passing through the points $(5, 7)$ and $(5, 10)$.

 - (c) L_3 , which is perpendicular to the line given by $3x + 5y - 6 = 0$.

2. (2ea) Citizens of a city who are connected to the municipal water supply are billed a fixed monthly amount plus a charge for each 100 cubic foot (HCF) of water used. Suppose a certain city charges a monthly fee of \$8 plus \$1.60 per HCF of water used. A customer's total monthly bill, B (in dollars), is given in terms of the amount of water used, w (in HCF), by the linear function

$$B(w) = 8 + 1.6w$$

- (a) What is a customer's bill if they use 9 HCF of water in a month?

- (b) How many cubic feet of water used would lead to a bill of \$35.20?

