

## Modeling with Linear Equations

---

**EX 1** Studies indicate that full-time working women make only 80% of what working men make. If a female is making \$60,000, how much do you expect a male counterpart to make?

**EX 2** Suppose it costs \$75 to rent a boat for the day plus \$5 per gallon of gas used. If your bill is \$98, how many gallons of gas did you use?

**EX 3** One positive number is  $\frac{1}{4}$  of another number. The difference between the two numbers is 48. Find the two numbers.

## Modeling with Linear Equations

---

**EX 4** A rectangular window has a perimeter of 15 feet. The width of the window is half of the height.

(a) Draw a picture and label  $w$  for the width and  $h$  for the height.

(b) Write  $w$  in terms of  $h$  and write an equation for the perimeter in terms of  $h$ .

(c) Find the dimensions of the window.

**EX 5** You drive your boat straight across a lake that is 4.5 miles long. If it takes you 10 minutes to cross the lake, how fast (in mph) were you going?

**EX 6** You invest a total of \$5000 split between two accounts earning simple interest, one 2.5%, the other at 3.0%. During one year the two accounts earned a combined \$144 in interest. How much did you invest in each account?