Homework Section 1.3a Models and Applications
Set up an equation for each problem and solve showing all work. Be sure to check that the answer is reasonable.

1.3.15 After a 20% reduction, you purchase a television for $336. What was the television's price before the reductions?

1.3.27 The length of the rectangular tennis court at Wimbledon is 6 feet longer than twice the width. If the courts perimeter is 228 feet, what are the court's dimensions?

1.3.31 An automobile repair shop charged a customer $448, listing $63 for parts and the remainder for labor. If the cost of labor is $35 per hour, how many hours of labor did it take to repair the car?

1.3.33 An HMO pamphlet contains the following recommended weight for women: "Give yourself 100 pound for the first 5 feet plus 5 pounds for every inch over 5 feet tall." Using this description, what height corresponds to a recommended weight of 135 pounds

1.3.17 Including 8% sales tax, an inn charges $162 per night. Find The inn's nightly cost before the tax is added.

1.3.19 The selling of a refrigerator is $584. If the markup is 25% of the dealer's cost, what is the dealer's cost of the refrigerator?

Solve each formula for the specified variable.

1.3.37 $A = lw$ for w

1.3.43 $E = mc^2$ for m

1.3.45 $T = D + pm$ for p

1.3.49 $S = P + Prt$ for r

1.3.39 $A = \frac{1}{2}bh$ for b

1.3.41 $I = Prt$ for P

1.3.41 $A = \frac{1}{2}h(a + b)$ for a

1.3.51 $B = \frac{F}{S-V}$ for S

1.3.53 $IR + Ir = E$ for I