For Problems 11-13, the formula $C = \frac{5}{9}(F - 32)$ expresses the relationship between Fahrenheit temperature, F and Celsius temperature, C. Use the formula to convert the given Fahrenheit temperature to its equivalent temperature on the Celsius scale.

11) 32 degrees F

$C = \frac{5}{9}(32 - 32)$

$= \frac{5}{9}(0)$

$C = 0$

12) 98.6 degrees F

$C = \frac{5}{9}(98.6 - 32)$

$= \frac{5}{9}(66.6)$

$C = 37$

13) 212 degrees F

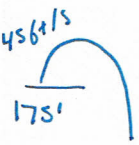
$C = \frac{5}{9}(212 - 32)$

$= \frac{5}{9}(180)$

$C = 100$

What is the significance of these 3 temperatures?

For Problems 14-15, A ball was thrown vertically upward from a height of 175 feet with an initial speed of 45 feet per second. The formula $h = 175 + 45t - 16t^2$ describes the ball's height above the ground *h*, in feet, *t* seconds after it was thrown. Use the formula to solve the following problems.



14) What is the ball's height 5 seconds after it was thrown? $t = 5$

$h = 175 + 45(5) - 16(5)^2$

$= 175 + 225 - 400 = 0$ feet

15) What is the ball's height 3 seconds after it was thrown? $t = 3$

$h = 175 + 45(3) - 16(3)^2$

$= 168$ feet

Carefully Read Page 310 – 311 and review Example 4. Then, complete Checkpoint 4.

$M = -120x^2 + 998x + 590$ $\quad x = 4$

$= -120(4)^2 + 998(4) + 590$

$M = 2662$ Calories

Graph 2700 calories > Model underestimates graph by 38 calories