**8A Constructing Models**

1. The motion of a basketball as it leaves a player’s hand and passes through the net can be modelled using the equation $h=2+1.1x-0.1x^{2}$, where h is the height of the ball above the ground, and x is the horizontal distance travelled (both in metres).
2. Find the height of the basketball;
3. When it is first released
4. After it has travelled a horizontal distance of 0.5m
5. Use the model to predict the height of the basketball when it is at a horizontal distance of 15m from the player
6. Comment on the validity of this prediction