



1. In 2010, the average price of a home in Greenville County was \$169,000. By 2019, the average price of a home was \$193,000.
- (a) Write a linear model for the price of a home, P , in Greenville County as a function of the year, t . Let $t = 0$ correspond to the year 2000. (3 marks)
- (b) If this model continues, find the average price a house in Greenville County would be in the year 2030. (2 marks)

Mark scheme:

(a) $m = \frac{193000-169000}{19-10} = \frac{24000}{9} = \frac{8000}{3}$ or 2666.7 (M1)

Attempt to find the y-intercept or use point slope of an equation. One possible model: (M1)

$$P(t) = 2666.7t + 142.333.3 \quad (A1)$$

(b) Using $t = 30$ for the year 2030: (M1)

$$P(30) = 2666.7(30) + 142333.3$$

$$P(30) = \$222,334 \quad (A1)$$