

Name _____

- Write as neatly as you can!
- No calculators are allowed.
- You must show your work to obtain full credit.

1. (*5 points*) The number of books sold in a small town in 2015 was 32 000. In 2010, 28 000 books were sold in this town. Let y be the number of books sold since 2010. (i.e., $x = 0$ represents the year 2010.)

Assuming the relationship between the number of years since 2010 and the number of books sold is linear, **Write a linear equation** modeling the number of books sold in terms of the year x .

[Hint: The line must pass through the points $(0, 28\,000)$ and $(5, 32\,000)$.]

2. (*5 points*) Consider the line given by equation $y = 2x + 0.17$. Find the equation of the line which is parallel to this line, and passes through the point $(0, -0.5)$.
Also find the equation of the line that is perpendicular to the first line, and goes through the point $(0, 1.13)$.

3. (*1 point, extra credit*) Suppose seller A sells a car at \$1000, and seller B sells the same car at a price that is 8% higher than the price at seller A's. You want to sell the same car, at a price that is 5% less than that of seller B. What is that price?