

Module 5 Lesson 3

TT 4. Possible Solutions

Foundations and Pre-calculus Mathematics 10 (Pearson), question 13 on page 363

13. a) Use the points (0, 900) and (10, 100) in the slope formula.

$$\begin{aligned} m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{100 - 900}{10 - 0} \\ &= \frac{-800}{10} \\ &= -80 \end{aligned}$$

The slope is -80 m/min.

The h -intercept is at (0, 900), which means that the float plane was at a height of 900 m when the timing of the descent began.

b) $h = 80t + 900$

Use the point (5, 500) to verify.

$$h = -80t + 900$$

$$500 = -80(5) + 900$$

$$500 = -400 + 900$$

$$500 = 500$$

Since the left side equals the right side, the equation is correct.

- c) Substitute $t = 5.5$ in the equation $h = 80t + 900$.

$$h = -80 \cdot 5.5 + 900$$

$$= -440 + 900$$

$$= 460 \text{ m}$$