Math 120 A - Autumn 2014
Mid-Term Exam Number One
October 16, 2014
Answers

There were two versions of the exam in use.

Version A - In problem 1, the Circular Forest has a radius of 8 km.

1. (a) 19.91602 km (b) 1.2649 km

2. (a) 9 (b) $5 - 8x - 4h$

3.
$$A(x) = \begin{cases} 6x & \text{if } 0 \le x \le 4, \\ 24 + \frac{1}{2}(x-4)(10 + \frac{1}{2}x) & \text{if } 4 \le x \le 10. \end{cases}$$

4. (a) $x = 1 + 1.25t, y = -3 + 2.75t$ (b) 7.0434 m/sec.

Version B - In problem 1, the Circular Forest has a radius of 5 km.

1. (a) 14.818658 km (b) 0.4472 km

2. (a) 3 (b) $8 - 14x - 7h$

3.
$$A(x) = \begin{cases} 5x & \text{if } 0 \le x \le 3, \\ 15 + \frac{1}{2}(x-3)(7 + x) & \text{if } 3 \le x \le 9. \end{cases}$$

4. (a) $x = -5 + 1.1t, y = 2 + 0.5t$ (b) 0.71084175 m/sec.