

Math 120 A - Autumn 2013
Mid-Term Exam Number Two
November 14, 2013
Answers

There were two versions of the exam.

Version A: In problem 1, the population of city A triples every 35 years.

1. (a) 11.76689 years after 2000 (b) 3.22924 years
2. (a) 214.285 mg/ml (b) 2.2857 minutes
3. 51.7451 by 206.980 meters
4. (a) The horizontal asymptote is $y = 3/2$ and the vertical asymptote is $x = -3/2$.
(b) $g^{-1}(x) = \frac{3x - 4}{3 - 2x}$
(c) The fixed points are $x = \pm\sqrt{2}$.

Version B: In problem 1, the population of city A triples every 22 years.

1. (a) 40.17275 years after 2000 (b) 6.182385 years
2. (a) 123.875 mg/ml (b) 17.5 minutes
3. 11.945 by 35.837 meters
4. (a) The horizontal asymptote is $y = 3/2$ and the vertical asymptote is $x = -7/2$.
(b) $g^{-1}(x) = \frac{14x - 20}{6 - 4x}$
(c) The fixed points are $-1 \pm \frac{1}{2}\sqrt{24}$.