

Answers to Fall 1999 Sample Final Exam

1. (a) $x = -\frac{3}{2}$
(b) $y = -\frac{3}{4}$
(c) $x = \frac{4}{5}$
(d) $y = \frac{2}{5}$
2. (a) $\sqrt{52}$ km
(b) 103.43 km
3. $x = -1, \frac{1}{5} \pm \frac{2i}{5}$
4. $x = 2$
5. $t = 17.62$ years
6. $x = 0, \pi, \frac{\pi}{3}, \frac{5\pi}{3}$
7. (a) \$20,485.95
(b) 17.62 years
8. $f(t) = 3 \sin 2t$
9. (a) $\langle -8, -5 \rangle$
(b) $\|\mathbf{u}\| = \sqrt{41}$
(c) $\theta = 38.66^\circ$
(d) $\left\langle \frac{5}{\sqrt{41}}, \frac{4}{\sqrt{41}} \right\rangle$
10. (a) 1906.40 ft
(b) 2365.4 ft
(c) 2177.37 ft