

**Unit 9 Homework Set Answers**  
**Applied Finite Mathematics**

**Lesson 3**

1. 0.75
2.  $\frac{5}{6}$
3.  $\frac{16}{52}$
4.  $\frac{1}{32}, \frac{1}{2}$
5.  $\frac{7}{988}$
6. No. Once an offspring is born with the affliction, the probability that future offspring of the same parents will be born with the affliction increases; 0.00096
7.  $\frac{9}{250}, \frac{2169}{62500}$
8. The probability of at least one diamond is approximately 0.44, which is less than 0.5. So, the game favors the dealer.

**Lesson 5**

1. 10,080 people
2. 70 points
3. 1.44 million viewers
4. 0.75 base
5. 56 employees
6. \$7200
7.  $\approx 141.51$  service calls

**Lesson 6**

1. a)  $P(x) = ({}_n C_x)(0.14)^x(0.86)^{n-x}$       b)  $P(2) = ({}_{12} C_2)(0.14)^2(0.86)^{10}$
2. 0.24576
3. 0.25412
4. 0.06877
5. 0.4096
6. a) 0.00098      b) 0.08789      c) 0.10352