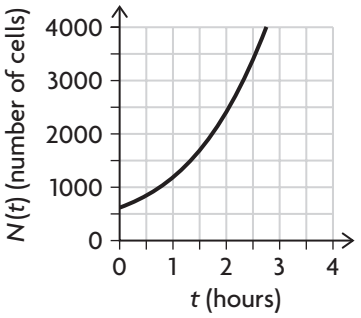
Lesson 7.6 Extra Practice Answers

1. a) i) Initial amount = 45, growth rate = 23%, number of growth periods = 11
ii) Initial amount = 1000, growth rate = 10%, number of growth periods = 4
iii) Initial amount = 23, growth rate = 2.5%, number of growth periods = 30
iv) Initial amount = 50, growth rate = 100%, number of growth periods = 8
b) i) 438.701
ii) 1464.1
iii) 48.244
iv) 12 800

2. a) $A(t) = 1500(1.05)^t$
b) $2326.99
c) The amount of money in the account after 5.5 years. Answers may vary; for example, the interest is paid only once per year, so a value at a half-year period is not an accurate representation of the money in the account.
d) The amount of money in the account 3 years before the account was opened. Answers may vary; for example, this point does not make sense because the account did not exist at that time.

3. a) 20 000
b) 1.9%
c) 26 524
d) The number of people in the town halfway through 2005. Answers may vary; for example, the growth of a town happens continuously, so evaluating it in half-year intervals is valid.
e) The number of people in the town in the year 1997. Answers may vary; for example, this function could reasonably extend backward, so if the town existed in 1997, the point likely is valid.

4. a) $N(t) = 600(2)^t$
b) 614 400; the number of cells in the bowl after 10 hours
c)



d) About 2.7 hours

5. a) $N(t) = 32(2)^t$
b) 10 hours
c) 1 hour faster

6. a) The city's population is expected to triple. Therefore, the growth rate is 200% per 50-year period.
b) $P(t) = 1\,278\,443(3)^t$
c) $t = 1.2$; the population will be 4 777 788