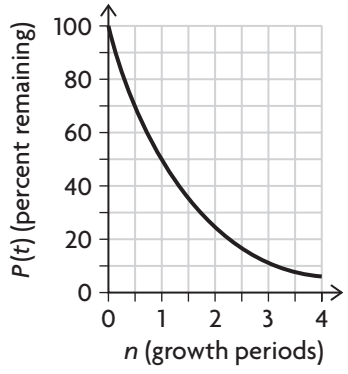
Lesson 7.7 Extra Practice Answers

1. a) **i)** Initial amount = 32, decay rate = 35%, number of decay periods = 13
ii) Initial amount = 100, decay rate = 50%, number of decay periods = 3
iii) Initial amount = 5, decay rate = 9%, number of decay periods = 24
iv) Initial amount = 10, decay rate = 20%, number of decay periods = 9

b) **i)** 0.118
ii) 12.5
iii) 0.520
iv) 1.342

2. a) 33%

b)

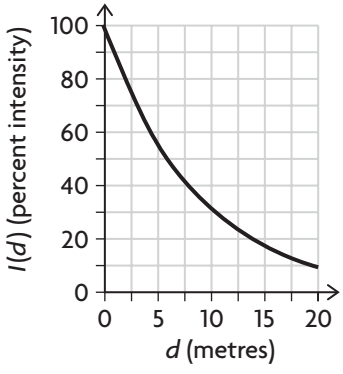


c) About 1.7 growth periods, which is approximately 9700 years old

3. a) 11%

b) 17%

c)



d) About 6 metres

4. a) About 1600 years
b) $P(t) = 100(0.5)^{\frac{t}{1600}}$.
c) 2%

5. a) $V(n) = 21\,000(0.977)^n$
b) \$15 883.79; the value of the car after 1 year
c) 30 months
d) The graphs match, so the formulas are equivalent.