Section 4.2 Extra Practice

**1.** Write each expression with positive exponents.

**a)** *c*−4

**b)** *mn*−2

**c)** 3*x*−3

**d)** 4*m*3*n*−2

**e)** −2*x*−4

**f)** −5*x*−3*y*−2

**2.** Simplify each expression. State the answer using positive exponents.

**a) **

**b)** (30)(3–3)

**c) **

**d)** 

**e)** (24)3

**f)** (32)– 4

**g)** [(4)(2–3)]–2

**h)** 

**3.** Simplify each expression. State the answer using positive exponents.

**a)** 

**b)** 

**c)** 

**d)** (–3*xy*4)2

**e)** (4*xy*–3)–2

**f)** –4*x*(5*x*)3

**g) **

**h) **

**4.** Simplify, then evaluate. Give the result as a fraction where necessary.

**a)** 5–2

**b)** 70

**c)** 

**d)** –(–3)2

**e)** 

**f)** 3–1 + 4–1

**g)** –5(*m*0 + *n*0)2

**h)** 

**i)** 

**5.** A bacterial culture in a lab has 500 cells. The number of cells doubles every hour. This relationship can be modelled by the equation *N* = 500(2)h, where *N* is the estimated number of bacteria cells and *h* is the time in hours.

**a)** If the conditions remain ideal, how many cells will there be after 6 h?

**b)** How many cells were there 2 h ago?

**6.** Dana evaluated the expression    
Is she correct? Justify your answer.