

## 2.1 HW

- 1. Use what you have learned about exponents to rewrite each of the expressions below. [Homework Help](#) 

a.  $\frac{h^9}{h^{11}}$


b.  $x^3 \cdot x^4$

c.  $(3k^5)^2$

d.  $n^7 \cdot n$

e.  $\frac{16x^4y^3}{2x^4}$


f.  $4xy^3 \cdot 7x^2y^3$

- 2. Gerardo is simplifying expressions with very large exponents. He arrives at each of the results below. For each result, decide if he is correct and justify your answer using the meaning of exponents. [Homework Help](#) 

a.  $\frac{x^{150}}{x^{50}} \Rightarrow x^3$

b.  $y^{20} \cdot y^{41} \Rightarrow y^{61}$

c.  $(2m^2n^{15})^3 \Rightarrow 2m^6n^{45}$


- 3. Find  $f(-3)$  for each function below. [Homework Help](#) 

a.  $f(x) = -2x + 3$

b.  $f(x) = -|1 - x|$

c.  $f(x) = \sqrt[3]{9x} + 2$

d.  $f(x) = \frac{1}{2}x + 2$

- 4. Which of the expressions below are equivalent to  $16x^8$ ? Make sure you find *all* the correct answers! [Homework Help](#) 

a.  $(16x^4)^2$

b.  $8x^2 \cdot 2x^6$

c.  $(2x^2)^4$

d.  $(4x^4)^2$

e.  $(2x^4)^4$

f.  $(\frac{1}{16}x^{-8})^{-1}$

- 5. Rewrite each expression below without negative or zero exponents. [Homework Help](#) 

a.  $4^{-1}$

b.  $7^0$

c.  $5^{-2}$

d.  $x^{-2}$

# Answer Key

- **1. See below:**

- a.  $\frac{1}{h^2}$

- b.  $x^7$

- c.  $9k^{10}$

- d.  $n^8$

- e.  $8y^3$

- f.  $28x^3y^6$

- **2. See below:**

- a. incorrect,  $x^{100}$

- b. correct

- c. incorrect,  $8m^6n^{45}$

- **3. See below:**

- a. 9

- b. -4

- c. -1

- d.  $\frac{1}{2}$

- **4. b, c, d, f**

- **5. See below:**

- a.  $\frac{1}{4}$

- b. 1

- c.  $\frac{1}{5^2} = \frac{1}{25}$

- d.  $\frac{1}{x^2}$