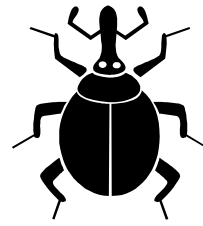


## 6.6 Where Did The Buzz Bugs Go Reflect and Apply



Simplify each of the following using the properties of exponents.

$$y^3 \cdot x^7 \cdot y^3 \cdot x^{-2} =$$

$$(x^3 y^2)^4 =$$

$$\frac{y^3 x^{-3}}{x^7} =$$

$$5x^{-4} =$$

$$\frac{x^{-4} y^{-5}}{x^{-6} y^9} =$$

$$\left( \frac{5x}{9y^5} \right)^2 =$$

$$(x^4 y)^3 =$$

$$y^4 \cdot x^6 \cdot y^7 \cdot x^2 =$$

$$\frac{y^5 x^{-2}}{x^5} =$$

$$\frac{x^{-3} y^{-2}}{x^{-7} y^9} =$$

$$3x^{-2} =$$

$$\left( \frac{2x}{3y^4} \right)^3 =$$

13. The amount of "Buzz Bugs" can be determined using the  $A = 210e^{-1.3t}$  function:  
(where  $t$  = the number of shakes).

a) How many buzz bugs were present at the beginning? \_\_\_\_\_

b) How many buzz bugs were present after 4 shakes? \_\_\_\_\_

14. The amount of "Buzz Bugs" can be determined using the function:  $A = 250e^{-1.2t}$   
(where  $t$ =the number of shakes).

c) How many buzz bugs were present at the beginning? \_\_\_\_\_

b) How many buzz bugs were present after 5 shakes? \_\_\_\_\_