

Worksheet 8.2 – Zero and Negative Exponents – Textbook pages 456-461**LEVEL 1**

Evaluate each expression. Write fractions in simplest form.

1) 3^{-2}

2) $(1/4)^{-3}$

3) $5(4)^0$

4) $(2)^{-3}$

5) $(0)^{-2}$

6) $2(1/3)^{-2}$

LEVEL 2

Simplify each expression. Rewrite the expression with positive exponents.

7) $(y^{-4})^5$

8) $2x^{-3}y^4$

9) $-5^0(2/w^{-2})$

LEVEL 3

Simplify each expression. Rewrite the expressions with positive exponents.

10) $(-3x^{-4}y^5)^{-3}$

11) $(-(-x)^2)^{-3}$

12) $5x(xyz^2)^0$

13) $6h^{-2}(3h^3)^{-2}$

14) $\frac{5a^{-2}}{3b^{-4}}$

15) $\frac{2z^{-4}}{7x^{-5}y^{-8}}$

LEVEL 4

16) A Professional basketball player's first year in the NBA was 2002. Suppose it were estimated that from 2002 to 2020 his average points per game could be modeled by $P = 19.5(1.055)^t$, where $t = 0$ represents the year 2010.

a.) Estimate the player's average points per game in 2010.

b.) Estimate the player's average points per game in 2005.

