


2.4HW

1. Rewrite each equation below. Then solve your new equation. Be sure to check your solution using the original equation. [Homework Help](#) 

a. $(n + 4) + n(n + 2) + n = 0$

b. $\frac{4}{x} = x + 3$

2. Decide whether each of the following pairs of expressions or equations are equivalent. If they are, show how you can be sure. If they are not, justify your reasoning completely. [Homework Help](#)

a. $(ab)^2$ and a^2b^2

b. $3x - 4y = 12$ and $y = \frac{3}{4}x - 3$

c. $y = 2(x - 1) + 3$ and $y = 2x + 1$


d. $(a + b)^2$ and $a^2 + b^2$

e. $\frac{x^6}{x^2}$ and x^3

f. $y = 3(x - 5) + 2$ and $y = 2x - 8$

3. Factor $5x^3y + 35x^2y + 50xy$ completely. Show every step and explain what you did.


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4. While Jenna was solving the equation $150x + 300 = 600$, she wondered if she could first change the equation to $x + 2 = 4$. What do you think? [Homework Help](#) 

a. Solve both equations and verify that they have the same solution.

b. What did Jenna do to the equation $150x + 300 = 600$ to change it to $x + 2 = 4$?

c. Use the same method to rewrite and solve $60t - 120 = 300$.

5. Consider the sequence 10, 2, ... [Homework Help](#) 

a. Assuming that the sequence is arithmetic with $t(1)$ as the first term, write the next four terms of the sequence and then write an equation for $t(n)$.

b. Assuming that the sequence is geometric with $t(1)$ as the first term, write the next four terms of the sequence and then write an equation for $t(n)$.

6. Rewrite each radical below as an equivalent expression using fractional exponents.

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a. $\sqrt[3]{5}$

b. $\sqrt[3]{9}$

c. $\sqrt[8]{17^x}$

d. $7\sqrt[4]{x^3}$

Answer Key

- **1. See below:**

- a. $n = -2$

- b. $x = -4, 1$

- **2. See below:**

- a. equivalent

- b. equivalent

- c. equivalent

- d. not equivalent

- e. not equivalent

- f. not equivalent

- **3.** $5xy(x + 2)(x + 5)$

- **4. See below:**

- . They both have the solution $x = 2$.

- a. She divided both sides of the equation by 150 and used the Distributive Property.

- b. Answers vary. One way to rewrite the equation is $t - 2 = 5$. $t = 7$.

- **5. See below:**

- a. $-6, -14, -22, -30, t(n) = 18 - 8n$

- b. $\frac{2}{5}, \frac{2}{25}, \frac{2}{125}, \frac{2}{625}, t(n) = 50\left(\frac{1}{5}\right)^n$

- **6. See below:**

- a. $5^{1/2}$

- b. $9^{1/3}$ or $3^{2/3}$

- c. $17^{x/8}$

- d. $7x^{3/4}$