Expressions vs Equations

8x + 6  
4x^2 = 3  
−3x^3 + 8x^3  
(−2x)(5x^2)  
x + 7 = \frac{3}{4}x + 1

1. List all of the expressions from the choices above.

2. List all of the equations from the choices above.

3. Simplify \((−2x)(5x^2)\).

4. Check to see if \(x = 8\) is a solution to \(x + 7 = \frac{3}{4}x + 1\).

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5. List all of the expressions from the choices above.

6. List all of the equations from the choices above.

7. Simplify \((−2x)(5x^2)\).

8. Check to see if \(x = 8\) is a solution to \(x + 7 = \frac{3}{4}x + 1\).
Please write your answers on a separate sheet of paper!

Be sure to show work in a similar way to work shown in the notes.

1. \( x - 7 = -21 \)  
2. \( y + 4 = -18 \)  
3. \( 4 - x = 17 \)  
4. \( 3 - y = -12 \)

5. \(-18y = 108\)  
6. \(22x = -154\)  
7. \(3x = -99\)  
8. \(-4x = -76\)

9. \( \frac{x}{7} = 3 \)  
10. \( \frac{x}{4} = 12 \)  
11. \( \frac{x}{4} = -9 \)  
12. \( \frac{x}{8} = -11 \)

13. \(2x + 1 = 3x\)  
14. \(5y + 2 = 4y\)  
15. \(6y = 2y + 16\)  
16. \(-3x = 4x + 28\)

17. \(8x + 2 = 9 + 7x\)  
18. \(5p + 10 = 8p + 4\)  
19. \(3 + 4x = x + 9\)  
20. \(6x + 6 = 16 + x\)

21. The federal debt limit per citizen, \( D \), in dollars, can be described by the model 

\[
D = 1914n + 19,371, \text{ where } n \text{ is the number of years after 2000.}
\]

a. How much is the debt limit per citizen in 2006? (actual amount: $30,200)

b. When will the debt limit per citizen be $40,425?

Review

1. Simplify:

a. \(2(x^3)^5\)  
b. \(3[7x - 2(5x - 1)]\)  
c. \(3x(5x^3 - 2)\)

2. Evaluate:

a. \(-16 - 8 \div 4 \cdot (-2)\)  
b. \((-10)^2\)  
c. \(-10^2\)  
d. \(x^3 - 4x\) for \(x = -1\)