Name _____ Date _____

CCSS.Math.Content.8.EE.C.8b

Solving Systems of Equations by Substitution

Directions: Things have gotten really out of hand with lucky shamrock production this year. Grandfather Leprechaun uses some pretty complicated equations to figure out how many shamrocks should be lucky (represented by an X) for every regular shamrock (represented by a Y). St. Patrick's Day begins in just one hour! Can you help him by solving his systems with substitution?

1. $Y = 5 + 3 - x$
   $Y = 10-2$

2. $Y = 5(x + 4)$
   $Y = 100 \div 2$

3. $Y = 15x$
   $Y = 3 \times 5 \times 3$

4. $Y = \sqrt{49}$
   $Y = 42 - 2x$

5. $Y = 4(2+x)$
   $Y = 2^4$

6. $Y = 5^2 - x$
   $Y = 100 \div 4 - 13$

7. $Y = \sqrt{(12+4)}$
   $Y = 20x - 10$

8. $33 + x - 25 = Y$
   $Y = 1.5\ (45 + 73)$

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Answer Key:

1. **0**
2. **6**
3. **3**
4. **17.5**
5. **2**
6. **13**
7. **7/10 or 0.7**
8. **169**