

In-Class Problems 17 for Monday, April 2

These problems are from [Pre-Class Problems 17](#).

1. Solve the following exponential equations.

a. $27^{x-5} = \frac{1}{81}$ b. $2^{4x+5} = 7$ c. $4^{6x-7} = 12^{8-x}$

2. Solve the following system of equations by using the substitution method.

a. $3x - 8y = 22$ b. $4x + y = -7$
 $x - 16y = 38$ b. $3x + 5y = 16$

3. Solve the following system of equations by using the addition method.

a. $4x + 3y = 14$ b. $3x - 5y = 3$
 $-5x + 6y = -24$ b. $7x + 3y = -4$

4. Solve the following systems of equations.

a. $4x - 3y + 5z = -10$ b. $3x - 5y = 14$
 $x + 6y - 2z = 2$ b. $2x + 3z = 18$
 $-2x - 9y + 3z = -2$ $-y + 2z = 9$

c. $4x - 2y + z = 12$
 $-3x + 4y - 5z = -13$
 $9x - 2y - 2z = 23$

5. A citrus fruit grower purchased 30 orange trees and 20 lemon trees for \$360. The next week the grower bought 25 orange trees and 35 lemon trees for \$410. Find the cost of a lemon tree.