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**Advanced Algebra II – Assignment 2-2**

3-7 Solve each equation below for x.

a. 23 = 2x b. x3 = 53 c. 34 = 32x d. 27 = 2(2x+1)

3-8 A grocery store is offering a sale on bread and soup. Khalil buys four cans of soup and three loaves of bread for $11.67. Ronda buys eight cans of soup and one loaf of bread for $12.89.

1. Write equations for Khalil’s and Ronda’s purchases.
2. Solve the system to find the price of one can of soup and the price of one loaf of bread.

3-11 Consider the sequence that begins 40, 20, 10, 5, . . .

1. Based on the information given, can this sequence be arithmetic? Can it be geometric? Why?
2. Assume this is a geometric sequence. Plot the sequence on a graph up to n=6

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3-12 If a ball is dropped from 160 cm and rebounds to 120 cm on the first bounce, how high will it rebound:

1. on the 2nd bounce?
2. on the 5th bounce?
3. on the nth bounce?

Algebra Review

Factor

1. 3x + 15 2. x2 – 16 3. x2 – 7x + 10

4. 10x2 – 6x – 3 5. 3x3 – 27x

6. Challenge x3 + 1 Hint: one of the factors is (x + 1)