College Mathematics

growth practice problems key

[1]	97, 90, 83, 76,...	**LINEAR** (add -7 each time); next is **69**
[2]	1, 20, 400, 8000,...	**EXPONENTIAL** (mult. by 20 each time); next is **160,000**
[3]	1, 3, 6, 10, 15,...	**NEITHER**
[4]	2, 17, 32, 47,...	**LINEAR** (add 15 each time); next is **62**
[5]	2.8, 4.5, 6.2, 7.9,...	**LINEAR** (add 1.7 each time); next is **9.6**
[6]	3, 1.5, 0.75, 0.375,...	**EXPONENTIAL** (mult. by 0.5 each time); next is **0.1875**
[7]	9, 10, 14, 21, 31,...	**NEITHER**
[8]	60, 65, 75, 90,...	**NEITHER**
[9]	450, 270, 162, 97.2,...	**EXPONENTIAL** (mult. by 0.6 each time); next is **58.32**
[10]	450, 270, 90, -90,...	**LINEAR** (add -180 each time); next is **-270**

[11] **51** is 1.7% of 3000.
[12] **30%** of 0.7 is 0.21
[13] 85 is **170%** of 50.

[14a] The new price of the guitar is **0.4** times the original price.
[14b] You pay **40%** of the original price.
[14c] You save **60%** of the original price.

[15] If an amount drops 30%, the new amount will be **0.70** times the old amount.
[16] Multiplying a number by 27.5 is the same as **increasing** the number **2650%**.
[17] Applying a 32% mark-up and then a 45% mark-up has the same effect as a **91.4%** mark-up.

[18*] A **41.2%** discount would approximately "cancel out" a 70% mark-up.

[19] **$14,063.32**
[20] **1.646 oz.**

[21] Assuming *linear* growth, the 1975 population would have been **58,500**.
[22] Assuming *linear* growth, the 2010 population would have been **69,000**.

[23*] Assuming *exponential* growth, the 1975 population would have been approximately **58,481**.
[24*] Assuming *exponential* growth, the 2010 population would have been approximately **69,981**.