SECONDARY MATH I // MODULE 2
LINEAR & EXPONENTIAL FUNCTIONS – 2.1

2.1

READY, SET, GO! Name Period Date

READY

Topic: Recognizing arithmetic and geometric sequences

Predict the next 2 terms in the sequence. State whether the sequence is arithmetic, geometric, or neither. Justify your answer.

1. 4, -20, 100, -500, ...

2500, -12500 -- Geometric
Constant ratio of -5

2. 3, 5, 8, 12, ...

17, 23 -- Neither
No constant ratio or difference

3. 64, 48, 36, 27, ...

20.25, 15.1875 -- Geometric
Constant ratio of $\frac{3}{4}$ or .75

4. 1.5, 0.75, 0, -0.75, ...

-1.5, -2.25 -- Arithmetic
Constant difference of -.75

5. 40, 10, $\frac{5}{2}$, $\frac{5}{8}$, ...

$\frac{5}{32}$, $\frac{5}{128}$ -- Geometric
Constant ratio of $\frac{1}{4}$

6. 1, 11, 111, 1111, ...

11111, 111111 -- Neither
No Constant ratio or difference

7. -3.6, -5.4, -8.1, -12.15, ...

-18.225, -27.3375 -- Geometric
Constant ratio of 1.5

8. -64, -47, -30, -13, ...

4, 21 -- Arithmetic
Constant difference of 17

9. Create a predictable sequence of at least 4 numbers that is NOT arithmetic or geometric.

Answers will vary. Example: 1, 12, 123, 1234, ...

SET

Topic: Discrete and continuous relationships

Identify whether the following statements represent a *discrete* or a *continuous* relationship.

10. The hair on your head grows ½ inch per month. Continuous

11. For every ton of paper that is recycled, 17 trees are saved. Discrete

12. Approximately 3.24 billion gallons of water flow over Niagara Falls daily. Continuous

13. The average person laughs 15 times per day. Discrete

14. The city of Buenos Aires adds 6,000 tons of trash to its landfills every day. Discrete

15. During the Great Depression, stock market prices fell 75%. Discrete

GO

Topic: Solving one-step equations

Either find or use the unit rate for each of the questions below.

16. Apples are on sale at the market 4 pounds for $2.00. What is the price (in cents) for one pound?

$.50

17. Three apples weigh about a pound. About how much would one apple cost? (Round to the nearest cent.)

$.17

18. One dozen eggs cost $1.98. How much does 1 egg cost? (Round to the nearest cent.)

$.17

19. One dozen eggs cost $1.98. If the charge at the register for only eggs, without tax, was $11.88, how many dozen were purchased?

6

20. Best Buy Shoes had a back to school special. The total bill for four pairs of shoes came to $69.24 (before tax.) What was the average price for each pair of shoes?

$17.31

21. If you only purchased 1 pair of shoes at Best Buy Shoes instead of the four described in problem 20, how much would you have paid, based on the average price?

$34.62

Solve for x. Show your work.

22. $6x = 72$

$x = 12$

23. $4x = 200$

$x = 50$

24. $3x = 50$

$x = 16.\overline{6}$

25. $12x = 25.80$

$x = 2.15$

26. $\frac{1}{2}x = 17.31$

$x = 34.62$

27. $4x = 69.24$

$x = 17.31$

28. $12x = 198$

$x = 16.5$

29. $1.98x = 11.88$

$x = 6$

30. $\frac{1}{4}x = 2$

$x = 8$

31. Some of the problems 22 – 30 could represent the work you did to answer questions 16 – 21. Write the number of the equation next to the story it represents.

#16 and 23, #17 and 24, #18 and 28, #19 and 29, #20 and 27, #21 and 27