Name:	Class:	Date:	ID:

## Reasoning

1. Based on the pattern, what are the next two terms of the sequence? 7, 12, 17, 22, . . . A. 32, 37 B. 27, 32 C. 110, 550 D. 27, 550 2. Based on the pattern, what are the next two terms of the sequence?  $4, \ \frac{4}{5}, \frac{4}{25}, \frac{4}{125}, \frac{4}{625}, \frac{4}{62$ A.  $\frac{4}{3125}, \frac{4}{3130}$ C.  $\frac{4}{630}, \frac{4}{3130}$ D.  $\frac{4}{630}$ ,  $\frac{4}{635}$ B.  $\frac{4}{3125}$ ,  $\frac{4}{15625}$ 3. Based on the pattern, what is the next figure in the sequence? <u> MAMAVAOMATAO</u> B. D. A. C.

А

4. What conjecture can you make about the fourteenth figure in this pattern?



8. What conjecture can you make about the product of 13 and 8,888,888?

13	· 88	=	1144		
13	· 888	=	11,544		
13	· 8888	=	115,544		
13	· 88,888	=	1,155,544		
A.	1,155,555,	544		C.	11,155,555,444
В.	1,115,555,	444		D.	115,555,544

- 9. Alfred is practicing typing. The first time he tested himself, he could type 26 words per minute. After practicing for a week, he could type 30 words per minute. After two weeks he could type 34 words per minute. Based on this pattern, predict how fast Alfred will be able to type after 4 weeks of practice.
  - A. 42 words per minute

C. 34 words per minute

B. 38 words per minute

- D. 44 words per minute
- 10. Laisha's Internet Services designs web sites and recently began a weekly advertising campaign. Laisha noticed an increase in her customers over a period of five consecutive weeks. Based on the pattern shown in the graph, make a conjecture about the number of customers Laisha will have in the seventh week.



- A. Laisha will have 13 customers.
- C. Laisha will have 9 customers.
- B. Laisha will have 11 customers. D. Laish
- D. Laisha will have 7 customers.
- 11. What is a counterexample for the conjecture? Conjecture: The product of two positive numbers is greater than the sum of the two numbers.
  - A. 2 and 2
  - B. There is no counterexample. The conjecture is true.
  - C. A counterexample exists, but it is not shown above.
  - D. 3 and 5
- 12. What is a counterexample for the conjecture?<br/>Conjecture: Any number that is divisible by 6 is also divisible by 12.<br/>A. 60A. 60B. 36C. 48D. 30

## Reasoning Answer Section

- 1. B
- 2. B
- 3. C
- 4. C
- 5. A
- 6. A
- 7. B
- 8. D
- 9. A
- 10. A 11. A
- 11. A 12. D

