Middle Level Mathematics (Grades 5–8)

Subtest 1 Sample Items

1. A new sales representative will be paid by company X every 25 days, by company Y every 15 days, and by company Z every 20 days. Based on this information, how many days will it be before all three companies pay the representative on the same day?

- A. 200 days
- B. 250 days
- C. 300 days
- D. 350 days

2. A reserved seat ticket, *r*, for a play costs $6 more than a general admission ticket, *g*. The cost of 5 general admission tickets is $3 more than the cost of 2 reserved seat tickets. Which of the following equations could be used to determine the cost of a general admission ticket?

- A. $5g + 3 = 2(g - 3)$
- B. $2g + 6 = 5g + 3$
- C. $2(g + 6) = 5(3g)$
- D. $5g - 3 = 2g + 12$

3. The pattern below shows the first 11 terms in a number sequence. If the pattern continues, what will be the 87th term in the number sequence?

1, 5, 3, 8, 2, 1, 5, 3, 8, 2, 1, ...

- A. 1
- B. 2
- C. 5
- D. 8

4. There are 3 hr. left in the workday and a sales associate has 5 calls to make to potential customers and has a 45 min. meeting to attend. If *m* equals the average number of minutes spent on each call, which of the following inequalities could be used to determine the time the sales associate can spend talking with each potential customer?

- A. $180 \geq 5m + 45$
- B. $3 - 0.75 \geq 5m$
- C. $3 + m \leq 45(m + 5)$
- D. $5m \leq 45 + 180$

5. Which of the following functions, *g*(*x*), represents a translation of the graph of *f*(*x*) = $\sqrt{x + 3}$ four units to the left on the *x*-axis?

- A. $g(x) = \sqrt{x + 7}$
- B. $g(x) = \sqrt{x - 1}$
- C. $g(x) = \sqrt{x + 3} + 4$
- D. $g(x) = \sqrt{x + 3} - 4$

Answer Key

Item Number	Correct Response	Subarea	Objective
1	C	I. Number Sense	0002
2	D	I. Number Sense	0003
3	C	II. Patterns, Relations, and Functions	0004
4	A	II. Patterns, Relations, and Functions	0006
5	A	II. Patterns, Relations, and Functions	0007

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