Name _____ Class _____ Date _____

9-3 Standardized Test Prep

Geometric Sequences

Multiple Choice

For Exercises 1–6, choose the correct letter.

1. What is the 10th term of the geometric sequence 1, 4, 16, . . .?

(A) 40 (B) 180,224 (C) 262,144 (D) 2,883,584

2. Which sequence is a geometric sequence?

(F) 1, 3, 5, 7, 9, . . . (H) 2, 4, 8, 16, 32, . . .

(G) 12, 9, 6, 3, 0, . . . (I) $-2, -6, -10, -14, -18, \ldots$

3. Which could be the missing term of the geometric sequence 5, __, 125, . . .?

(A) 25 (B) 50 (C) 75 (D) 100

4. What could be the missing term of the geometric sequence -12, __, $-\frac{3}{4}$, . . .?

(F) -4 (G) -6.375 (H) 3 (I) 4

5. In the explicit formula for the 9th term of the geometric sequence 1, 6, 36, . . . what number is a?

(A) 1 (B) 6 (C) 36 (D) 1,679,616

6. In each successive round of a backgammon tournament, the number of players decreases by half. If the tournament starts with 32 players, which rule could predict the number of players in the nth round?

(F) $32 = (0.5)^n$ (G) $32 = 0.5r^{n-1}$ (H) $a_n = 15^{n-1}$ (I) $a_n = (32)(0.5)^{n-1}$

Short Response

7. What is the 6th term of the geometric sequence 100, 50, . . .? Show your work using the explicit formula.