

# 6-7 Standardized Test Prep

## Inverse Relations and Functions

### Multiple Choice

For Exercises 1–4, choose the correct letter.

1. What is the inverse of the relation?

x	-2	-1	0	2
y	3	1	-1	-2

(A)

x	-2	-1	1	3
y	2	0	-1	-2

(C)

x	-2	-1	0	2
y	-2	-1	1	3

(B)

x	-2	-1	0	2
y	-3	-1	1	2

(D)

x	-2	-1	1	3
y	2	1	-1	-2

2. What is the inverse of the function?  $y = 5(x - 3)$

(F)  $y = \frac{x + 3}{5}$

(G)  $y = \frac{1}{5}x + 3$

(H)  $y = 5(x + 3)$

(I)  $y = \frac{1}{5}x - 3$

3. What function with domain  $x \geq 5$  is the inverse of  $y = \sqrt{x} + 5$ ?

(A)  $y = x^2 + 5$

(B)  $y = x^2 - 5$

(C)  $y = (x - 5)^2$

(D)  $y = (x + 5)^2$

4. What is the domain and range of the inverse of the function?  $y = \sqrt{x - 5}$

(F) domain is the set of all real numbers  $\geq 0$ ; range is the set of all real numbers  $\geq 5$

(G) domain is the set of all real numbers  $\geq 5$ ; range is the set of all real numbers  $\geq 0$

(H) domain and range is the set of all real numbers  $\geq 5$

(I) domain and range is the set of all real numbers

### Extended Response

5. A high school principal uses the formula  $y = 150x + 180$  to predict a student's score on a state achievement test using the student's 11th-grade GPA number  $x$ .

a. What is the inverse of the formula?

b. Is the inverse a function?

c. Using the inverse, what GPA does a student need to get a passing score of 510 on the state exam?