MATH 5 SN Name_____

FUNCTIONS & RADICALS MULTIPLE CHOICE PRETEST

Simplify.

1) $\sqrt{48a^2bc}$

A) $4b^2c\sqrt{6ac}$ B) $4a\sqrt{3bc}$

C) $5a^2b\sqrt{6c}$ D) $12a^2\sqrt{bc}$

2) $3\sqrt{3}+2\sqrt{18}-2\sqrt{8}$

A) $9\sqrt{3}+2\sqrt{2}$

B) $6\sqrt{3}+2\sqrt{2}$

C) $3\sqrt{3}+2\sqrt{2}$

D) $6\sqrt{3}-4\sqrt{2}$

3) $\left(\sqrt{2}+4\sqrt{3}\right)\left(\sqrt{2}+\sqrt{3}\right)$

A) 10 B) 14

C) $14+5\sqrt{6}$ D) $28-4\sqrt{15}$

4) $\dfrac{\sqrt{2}}{3\sqrt{5}}$

A) $\dfrac{5\sqrt{10}}{2}$ B) $\dfrac{\sqrt{15}}{15}$

C) $\dfrac{3\sqrt{10}}{2}$ D) $\dfrac{\sqrt{10}}{15}$

5) $\dfrac{4}{5+3\sqrt{5}}$

A) $\dfrac{-6+15\sqrt{2}}{46}$

B) $\dfrac{4\sqrt{3}-\sqrt{6}}{14}$

C) $\dfrac{-5\sqrt{5}+15\sqrt{3}}{22}$

D) $\dfrac{-5+3\sqrt{5}}{5}$

Solve this equation by taking square roots.

6) $8n^2 + 7 = 679$

A) $\{2\sqrt{21}\}$
B) $\{3\sqrt{2}, -3\sqrt{2}\}$
C) $\{2\sqrt{21}, -2\sqrt{21}\}$
D) $\left\{\frac{7\sqrt{7}}{2}, -\frac{7\sqrt{7}}{2}\right\}$

Find the inverse of this function.

7) $g(x) = -5 - \frac{7}{5}x$

A) $g^{-1}(x) = \frac{4}{3}x + \frac{5}{3}$
B) $g^{-1}(x) = \frac{3x - 6}{4}$
C) $g^{-1}(x) = -\frac{5}{7}x - \frac{25}{7}$
D) $g^{-1}(x) = \frac{1}{3}x + \frac{2}{3}$

Perform the indicated operation.

8) $f(a) = 3a + 1$
$g(a) = -a^2 + 4$
Find $(f \circ g)(a)$

A) $-9a^2 + 6a + 3$
B) $a^2 - 4a - 3$
C) $-9a^2 - 6a + 3$
D) $-3a^2 + 13$

9) $f(x) = 3x - 1$
Find $(f \circ f)(x)$

A) $9x - 4$
B) $-16x$
C) $-4x + 12$
D) $-9x - 4$

10) $g(a) = a - 1$
$f(a) = a^2 - 5a$
Find $(g \circ f)(a)$

A) $3a - 11$
B) $a^2 - 5a - 1$
C) $a^2 + 7a + 6$
D) $a^2 - 7a + 6$

Answers to FUNCTIONS & RADICALS MULTIPLE CHOICE PRETEST

1) B	2) C	3) C	4) D
5) D	6) C	7) C	8) D
9) A	10) B		