Algebra 2 Name_____

Alg 2, Chap 7 Practice Test, IA Ver 1

Date_____ Period____

(7-1) Simplify.

1) $\sqrt[3]{256}$

2) $-5\sqrt[3]{384ab}$

(7-2) Simplify.

3) $\sqrt[3]{125p^2} \cdot -5\sqrt[3]{25p^2}$

4) $\dfrac{3\sqrt{25x^4y^2}}{\sqrt{10x^3y^2}}$

(7-3) Simplify.

5) $-\sqrt{18} + 2\sqrt[7]{256}$

(7-3) Simplify. Use absolute value signs when necessary.

6) $\left(-2 + \sqrt{3v}\right)\left(3 + 2\sqrt{3v}\right)$

(7-3) Simplify.

7) $\dfrac{6\sqrt{6} - \sqrt{7}}{\sqrt{3} + 10\sqrt{5}}$

(7-4) Write each expression in radical form.

8) $(10n^2)^{-\frac{1}{6}}$

9) $(6a)^{\frac{4}{3}}$

(7-4) Rewrite in exponential form.

10) $(\sqrt[5]{3n})^3$

(7-5) Solve each equation. Remember to check for extraneous solutions.

11) $3\sqrt{-1-82x} = 27$

12) $12 = 6\sqrt{4x}$

13) $(m+9)^{\frac{1}{2}} = (1-m)^{\frac{1}{2}}$

14) $a = -1 + \sqrt{a+57}$

(7-6) Perform the indicated operation.

15) $g(n) = n^2 - n$
$h(n) = 3n - 5$
Find $(g-h)(n)$

16) $g(x) = x^2 - 2x$
$f(x) = 2x - 2$
Find $g(-5) + f(-5)$

17) $g(n) = -3n - 5$
$f(n) = n^3 + 5n^2$
Find $\left(\frac{g}{f}\right)(n)$

18) $g(x) = 4x - 5$
$f(x) = x - 2$
Find $(g \circ f)(x)$

(7-7) Find the inverse of each function.

19) $f(n) = \frac{4n+20}{9}$

20) $f(x) = \sqrt[5]{x-1}$

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(7-1) Simplify.

1) $\sqrt[3]{256}$

$4\sqrt[3]{4}$

2) $-5\sqrt[3]{384ab}$

$-20\sqrt[3]{6ab}$

(7-2) Simplify.

3) $\sqrt[3]{125p^2} \cdot -5\sqrt[3]{25p^2}$

$-25p\sqrt[3]{25p}$

4) $\dfrac{3\sqrt{25x^4y^2}}{\sqrt{10x^3y^2}}$ $\dfrac{3\sqrt{10x}}{2}$

(7-3) Simplify.

5) $-\sqrt{18} + 2\sqrt[7]{256}$

$-3\sqrt{2} + 4\sqrt[7]{2}$

(7-3) Simplify. Use absolute value signs when necessary.

6) $(-2 + \sqrt{3v})(3 + 2\sqrt{3v})$

$-6 - \sqrt{3v} + 6|v|$

(7-3) Simplify.

7) $\dfrac{6\sqrt{6} - \sqrt{7}}{\sqrt{3} + 10\sqrt{5}}$

$\dfrac{-18\sqrt{2} + 60\sqrt{30} + \sqrt{21} - 10\sqrt{35}}{497}$

(7-4) Write each expression in radical form.

8) $(10n^2)^{-\frac{1}{6}}$ $\frac{1}{\sqrt[6]{10n^2}}$

9) $(6a)^{\frac{4}{3}}$ $(\sqrt[3]{6a})^4$

(7-4) Rewrite in exponential form.

10) $(\sqrt[5]{3n})^3$ $(3n)^{\frac{3}{5}}$

(7-5) Solve each equation. Remember to check for extraneous solutions.

11) $3\sqrt{-1-82x} = 27$ $\{-1\}$

12) $12 = 6\sqrt{4x}$ $\{1\}$

13) $(m+9)^{\frac{1}{2}} = (1-m)^{\frac{1}{2}}$ $\{-4\}$

14) $a = -1 + \sqrt{a+57}$ $\{7\}$

(7-6) Perform the indicated operation.

15) $g(n) = n^2 - n$
$h(n) = 3n - 5$
Find $(g-h)(n)$
$n^2 - 4n + 5$

16) $g(x) = x^2 - 2x$
$f(x) = 2x - 2$
Find $g(-5) + f(-5)$
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17) $g(n) = -3n - 5$
$f(n) = n^3 + 5n^2$
Find $\left(\frac{g}{f}\right)(n)$
$\frac{-3n-5}{n^3+5n^2}$

18) $g(x) = 4x - 5$
$f(x) = x - 2$
Find $(g \circ f)(x)$
$4x - 13$

(7-7) Find the inverse of each function.

19) $f(n) = \frac{4n+20}{9}$ $f^{-1}(n) = \frac{-20+9n}{4}$

20) $f(x) = \sqrt[5]{x-1}$ $f^{-1}(x) = 1 + x^5$