Algebra 2 Name_____ ID: 1

Quiz #2 Review

Date_____ Period____

Simplify. Assume all variables are positive.

1) $\sqrt{108x^3y^3}$

2) $\sqrt[5]{96a^2b^5}$

3) $\sqrt[4]{324u^2v^6}$

4) $\sqrt[3]{375x^5y}$

Write each expression in radical form.

5) $3^{\frac{1}{5}}$

6) $7^{-\frac{5}{3}}$

Write each expression in exponential form.

7) $\left(\sqrt[5]{2}\right)^6$

8) $\left(\sqrt[4]{3}\right)^5$

Simplify.

9) $125^{\frac{4}{3}}$

10) $36^{\frac{1}{2}}$

11) $49^{\frac{3}{2}}$

12) $81^{-\frac{3}{2}}$

13) $625^{-\frac{3}{4}}$

14) $243^{\frac{4}{5}}$

Solve each equation. Remember to check for extraneous solutions.

15) $\sqrt{2x + 45} = x + 5$

16) $a + 2 = \sqrt{7a + 14}$

17) $\sqrt{3p + 4} + 8 = 12$

18) $\sqrt{12 - 2n} = \sqrt{2n - 4}$

Sketch the graph of each function and state the domain and range.

19) $y = \sqrt{x + 5} + 3$

20) $y = 2\sqrt{x - 2} - 3$

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Quiz #2 Review

Date_____ Period____

Simplify. Assume all variables are positive.

1) $\sqrt{108x^3y^3}$

$6xy\sqrt{3xy}$

2) $\sqrt[5]{96a^2b^5}$

$2b\sqrt[5]{3a^2}$

3) $\sqrt[4]{324u^2v^6}$

$3v\sqrt[4]{4u^2v^2}$

4) $\sqrt[3]{375x^5y}$

$5x\sqrt[3]{3x^2y}$

Write each expression in radical form.

5) $3^{\frac{1}{5}}$

$\sqrt[5]{3}$

6) $7^{-\frac{5}{3}}$

$\frac{1}{\left(\sqrt[3]{7}\right)^5}$

Write each expression in exponential form.

7) $\left(\sqrt[5]{2}\right)^6$

$2^{\frac{6}{5}}$

8) $\left(\sqrt[4]{3}\right)^5$

$3^{\frac{5}{4}}$

Simplify.

9) $125^{\frac{4}{3}}$

625

10) $36^{\frac{1}{2}}$

6

11) $49^{\frac{3}{2}}$

343

12) $81^{-\frac{3}{2}}$

$\frac{1}{729}$

13) $625^{-\frac{3}{4}}$

$\frac{1}{125}$

14) $243^{\frac{4}{5}}$

81

Solve each equation. Remember to check for extraneous solutions.

15) $\sqrt{2x + 45} = x + 5$

$\{2\}$

16) $a + 2 = \sqrt{7a + 14}$

$\{-2, 5\}$

17) $\sqrt{3p + 4} + 8 = 12$

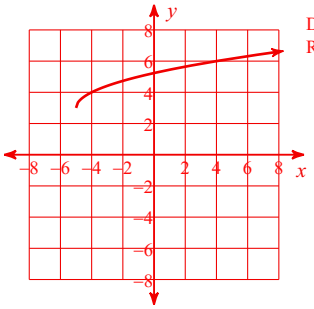
$\{4\}$

18) $\sqrt{12 - 2n} = \sqrt{2n - 4}$

$\{4\}$

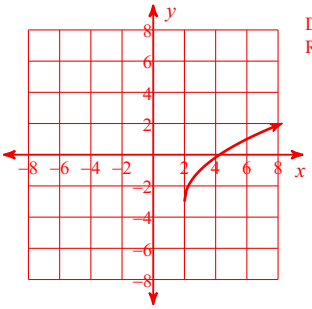
Sketch the graph of each function and state the domain and range.

19) $y = \sqrt{x + 5} + 3$



Domain: $x \geq -5$
Range: $y \geq 3$

20) $y = 2\sqrt{x - 2} - 3$



Domain: $x \geq 2$
Range: $y \geq -3$