Practice 17.4b & 17.6

Name_____

Perform the indicated operation.

1) Find $(f - g)(x)$ if $f(x) = 9\sqrt{x} - 2$ and $g(x) = 2\sqrt{x} - 1$

2) Find $(f + g)(x)$ if $f(x) = \sqrt{100x + 100}$ and $g(x) = \sqrt{x + 1}$

Multiply, then simplify the product. If variables are present, assume they are positive.

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

4) $(\sqrt{6x} + y)(\sqrt{6x} - y)$

Rationalize the denominator.

5) $\frac{8}{\sqrt{3}}$

6) $\sqrt{\frac{36}{11}}$

7) $\frac{4a}{\sqrt{5}}$

8) $\frac{5\sqrt{31x}}{\sqrt{x^3}}$

9) $\frac{2}{6 - \sqrt{3}}$

10) $\frac{10 - \sqrt{3}}{10 + \sqrt{3}}$

11) $\frac{2\sqrt{x}}{\sqrt{x} - 3\sqrt{y}}$

Solve the equation symbolically.

12) $\sqrt{y} = 4$

13) $\sqrt[3]{x - 5} = 5$

Evaluate the root function at the given x-value. Round to the nearest hundredth when appropriate.

14) $f(x) = \sqrt{4x + 16}$, $x = 0$

15) $f(x) = \sqrt{(x - 1)^2}$, $x = 5$

Solve the equation.

16) $2x^2 = 8$

17) $(16 - 8x)^2 = 1600$

18) $(16 - 40x)^3 = -1000$

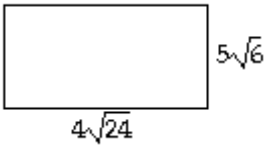
Solve the formula for the indicated variable.

19) $r = \sqrt{\frac{S}{4\pi}}$ for S

20) $L = \sqrt{\frac{2W}{k}}$ for k

Find the exact perimeter. Then approximate your answer to the nearest tenth.

21)



Answer Key
Testname: WKS_17.4B_17.6

1) $7\sqrt{x} - 1$
2) $11\sqrt{x + 1}$
3) $\sqrt{35} + 6\sqrt{7} - 3\sqrt{5} - 18$
4) $6x - y^2$
5) $\frac{8\sqrt{3}}{3}$
6) $\frac{6\sqrt{11}}{11}$
7) $\frac{4a\sqrt{5}}{5}$
8) $\frac{5\sqrt{31}}{x}$
9) $\frac{12 + 2\sqrt{3}}{33}$
10) $\frac{103 - 20\sqrt{3}}{97}$
11) $\frac{2\sqrt{x}(\sqrt{x} + 3\sqrt{y})}{x - 9y}$
12) 16
13) 130
14) 4
15) 4
16) ±2
17) -3, 7
18) $\frac{13}{20}$
19) $S = 4\pi r^2$
20) $k = \frac{2W}{L^2}$
21) $26\sqrt{6}$, 63.7