

# CHAPTER 11 TEST REVIEW!

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**11-5 Square Root Functions**  
 Find the domain of the square-root function.

1.  $y = \sqrt{3x-12}$

$3x-12 \geq 0$   
 $+12 +12$   
 $3x \geq 12$   
 $x \geq 4$

Find the domain and use it to graph the function.

2.  $y = \sqrt{2x-5}$

X	Y
0	-5
$\frac{5}{2}$	-4
2	-3
8	-1

$2x \geq 0$   
 $\frac{2x}{2} \geq \frac{0}{2}$   
 $x \geq 0$

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**11-6 Radical Expressions**  
 Simplify.

3.  $5\sqrt{40x^6}$

$5 \cdot 2 \cdot x^3 \cdot \sqrt{10}$   
 $10x^3\sqrt{10}$

4.  $\sqrt{x^4y^5}$

$x^2y^2\sqrt{y}$

5.  $\sqrt{\frac{8x^{10}}{64y^4}}$

$\frac{\sqrt{8x^{10}}}{\sqrt{64y^4}} = \frac{\sqrt{4x^2 \cdot 2x^8}}{8y^2} = \frac{2x \cdot \sqrt{2x^8}}{8y^2} = \frac{x\sqrt{2x^8}}{4y^2}$

6.  $\sqrt{\frac{192m^2}{200}}$

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**11-7 Adding and Subtracting Radical Expressions**  
 Simplify each expression.

7.  $15\sqrt{11} - 7\sqrt{11}$

$8\sqrt{11}$

8.  $\sqrt{192y} + \sqrt{12y} - \sqrt{300y}$

$8\sqrt{3y} + 2\sqrt{3y} - 10\sqrt{3y}$   
 $10\sqrt{3y} - 10\sqrt{3y} = 0$

**11-9 Solving Radical Equations**  
 Solve each equation. CHECK YOUR ANSWERS

14.  $-5\sqrt{x} = -25$

$\frac{-5\sqrt{x}}{-5} = \frac{-25}{-5}$   
 $\sqrt{x} = 5^2$   
 $x = 25$

15.  $\sqrt{15+2x} = x$

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**11-8 Multiplying and Dividing Radical Expressions**  
 Multiply. Write each product in simplest form.

9.  $\sqrt{5} \cdot \sqrt{12}$

$\sqrt{60}$   
 $\sqrt{4 \cdot 15}$   
 $2\sqrt{15}$

10.  $\sqrt{5(9\sqrt{8} + \sqrt{2}y)}$

$9\sqrt{40} + \sqrt{10y}$   
 $9\sqrt{4 \cdot 10} + \sqrt{10y}$   
 $18\sqrt{10} + \sqrt{10y}$

11.  $(10 + \sqrt{3})^2$

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12.  $\frac{10}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

$2\sqrt{5}$

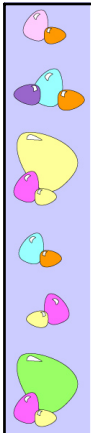
13.  $\frac{-18\sqrt{3}}{\sqrt{6}}$

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12. How long is the diagonal of a rectangle parking lot that is 100m long and 180m wide? Give the answer as a radical expression in simplest form. Then estimate the length to the nearest tenth of a meter.

$100^2 + 180^2 = c^2$   
 $\sqrt{42400} = \sqrt{c^2}$   
 $\sqrt{424 \cdot 100}$   
 $10\sqrt{424}$   
 $10\sqrt{}$

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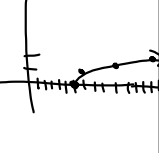
Assignment:

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1.  $113\sqrt{.3}$

5.  $f(x) = \sqrt{x-6}$

$x-6 \geq 0$	$x$	$y$
$+6 \quad +6$	6	0
	7	1
	10	2
	15	3



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