Math 95 Name: Date:

Take Home Quiz # 2

- Justify and show the means by which you arrive at your answers using equations, pictures, calculations, geometry, algebra steps, and/or technology. *You will not receive full credit if your answer is not supported by work that is legible and organized.*
- Place a **box** around your final answer. *It won't be graded if you do not do this!*
- Make your answers and their presentation in a professional and easily understandable format … make this your clearest and best work! *Points will be deducted for disorganized , sloppy work.*

8.4

Simplify the expressions

1. $\sqrt{12d^2} + \sqrt{75d^2} - \sqrt{27d^2}$

2. $\sqrt[3]{6x^7y} \bullet \sqrt[3]{9x^4y^{12}}$

3. $(\sqrt{3} + 3\sqrt{5})(\sqrt{3} - 2\sqrt{5})$

8.5

Simplify the radical expressions (rationalize the denominator):

4. $\frac{\sqrt{a}+3}{\sqrt{a}+4}$

5. $\sqrt[3]{\frac{4}{6x}}$

6. $\frac{3}{\sqrt{2}+3}+\frac{5}{\sqrt{2}-3}$

8.6

Solve the radical equations:

7. $\sqrt{3x-2}\ -5=0$

8. $(2x+3)^{\frac{1}{4}}+7=10$

8.7

9. Find the length of the segment with endpoints $(-3,5)$ and $(3,15)$ using the distance formula $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$. Write your answers in simplest radical form.

10. A 53-inch (diagonal) TV set has a screen with a height of 28 in. What is its width?

8.8

11. Find the product in the form a + bi: $(8 - 4i)(3 - 2i)$

12. Find the quotient in the form a + bi: $\frac{6-3i}{4+2i}$