Math 042: Exam III	**Date: April 26, 2010**
Name: _____	**Section:** _____

1. Perform the indicated operation and simplify.

$$\frac{1}{k+3}+\frac{4}{3k}$$

Your answer: _____ .

2. Perform the indicated operation and simplify.

$$\frac{1}{x+3}-\frac{3}{x^2+5x+6}$$

Your answer: _____ .

3. Simplify

$$\frac{\frac{6}{x}+\frac{3}{x^2}}{\frac{3}{x}+1}$$

Your answer: _____ .

4. Solve for x.

$$\frac{5}{x+5}=\frac{3x}{x+5}+2$$

Your answer: _____ .

5. Simplify: $\sqrt{12}+\sqrt{48}-2\sqrt{20}$ **Your answer:** _____ .

6. Simplify:

$$\left(\frac{x^{1/2}y^{2/3}}{x^{1/3}y^{-1/4}}\right)^{12}$$

Your answer: _____ .

7. Rationalize the denominator and simplify.

$$\frac{3}{2\sqrt{3}-5}$$

Your answer: _____ .

8. Solve for y: $\sqrt{3y+4}=7$ **Your answer:** _____ .

9. Express the following in simplest radical form.

(a) $\sqrt{54x^7y^6}$ **Your answer:** _____ .

(b) $\sqrt[3]{54x^7y^6}$ **Your answer:** _____ .

(c) $(\sqrt{7a})^2$ **Your answer:** _____ .

(d) $(7\sqrt{a})^2$ **Your answer:** _____ .

10. Evaluate $(16^{-1/2})(27^{2/3})$ **Your answer:** _____