Algebra Review Worksheet and Answers
Algebra Exam – Wednesday, September 2nd

There are 30 problems on this worksheet. The answers are shown starting on page 4.

In problems 1-10, simplify each expression completely with a common denominator. (if applicable) Your final answer should not have any negative number exponents. Assume that $a, b,$ and c are parameters.

1. $\dfrac{3x}{x+1} - \dfrac{7x+2}{4x}$

2. $\dfrac{1+2t}{\sqrt{t+3}} + 2\sqrt{t+3}$

3. $\dfrac{2}{y+4} - \dfrac{3}{y-4}$

4. $\dfrac{c^z 4^{z+2}}{4^z c^{z-2}}$

5. $\dfrac{(x^3+1)^2 - 6x^3(x^3+1)}{(x^3+1)^4}$

6. $\dfrac{(a+8)^{x+1}}{(a+8)^{4x-2}} =$

7. $\dfrac{(x^2+1)\dfrac{1}{2\sqrt{x}} - \sqrt{x}(2x)}{(x^2+1)^2}$

8. $\dfrac{4(z+2)^{1/2} - 2z(z+2)^{-1/2}}{z+2}$

9. $b^{y-1}b^{1-y}$

10. $\dfrac{5}{\sqrt{1-z^2}} - 3\sqrt{1-z^2}$