Name _____ Date: _____

PC: Quarter 1 Test 2 Review

For each of the following, simplify the expression completely. (Remember to write down any restrictions.)

1. $\frac{8a^2-8ab}{16a^3-16a^2b}$

2. $\frac{6k^2-30k}{15+7k-2k^2}$

3. $\frac{4h^2}{h^2-h}$

Perform the indicated operation(s) and simplify. (Do not forget to write the restrictions.)

4. $\frac{x^2y+xy^2}{x^3-4x^2y} \cdot \frac{xy-4y^2}{xy^2+2y^3}$

5. $\frac{a^2-ab}{ab+2b^3} \div \frac{a^2+ab}{ab+b^2}$

6. $\frac{2x^2+3x+1}{x^2+3x+2} \div \frac{x^2+6x+9}{x^2+5x+6}$

7. $\frac{4y^2-1}{y^3+3y^2+2y} \cdot \frac{y^2-2y-3}{2y^2-5y-3} \div \frac{-6y^2+y+1}{3y^2+7y+2}$

8. $\frac{y-3}{y^2+3y-4} + \frac{2y+1}{2y^2+6y-8}$

9. $\frac{y}{y+2} - \frac{2}{3-y} - \frac{3y+1}{y^2-y-6}$

10. $\dfrac{\dfrac{2}{x} - \dfrac{1}{2z}}{\dfrac{3}{w} - \dfrac{1}{3z}}$

11. $\dfrac{4 - x^{-2}}{2x^{-1} - x^{-2}}$

12. $\dfrac{\dfrac{x^3}{x+1}}{\dfrac{x}{x^2+2x+1}}$

13. $\dfrac{1 - \dfrac{1}{1-x}}{16 + \dfrac{7}{x^2-1}}$

Use the geometric definition of absolute value to find the solution set to the following.

14. $|x - 3| = 5$

15. $|2x - 3| = 1$

16. $|7 - 3x| \leq 6$

17. $\left|\dfrac{5}{6} + \dfrac{2}{3}x\right| > 6$

18. $|3x - 4| < -1$

19. $|2x - 5| \geq 0$