Math 151 Ch. 6 Sample Test Mr. Singh

1. Simplify $\dfrac{12x^8y^5}{15x^5y}$
2. Simplify $\dfrac{a^2-25}{a^2+7a+10}$
3. List the numbers for which $\dfrac{b-7}{7b-21}$ is undefined.
4. Divide and, if possible, simplify $\dfrac{7p-7}{p} \div \dfrac{10p-10}{4p^2}$
5. Multiply and, if possible, simplify $\dfrac{6v^2}{5v^2+10v-15} \cdot \dfrac{5v+15}{2v}$
6. Divide and, if possible, simplify $\dfrac{-28+7x}{28} \div \dfrac{20-5x}{20}$
7. Find the least common multiple of 12 and 30.
8. Find the least common multiple of x^2-6x+8 and $6x-24$.
9. Subtract and, if possible, simplify $\dfrac{3x+24}{x^2+2x-8} - \dfrac{x+15}{x^2+2x-8}$
10. Write equivalent expressions that have the least common denominator.
    $\dfrac{2}{5x}, \dfrac{5}{3x^2}$
11. Subtract and, if possible, simplify $\dfrac{2}{21x} - \dfrac{4}{15x^2}$
12. Subtract and, if possible, simplify $\dfrac{x}{x^2-16} - \dfrac{7}{x^2+5x+4}$
13. Simplify $\dfrac{\frac{7}{x}-\frac{x}{7}}{\frac{1}{7}-\frac{1}{x}}$
14. Solve. If no solutions exists, state this. $\dfrac{3}{x} = 7 + \dfrac{2}{x}$
15. Solve. If no solutions exists, state this. $\dfrac{x+1}{3} - 1 = \dfrac{x-1}{2}$
16. Frank can type a report in 5 hours and James takes 6 hours. How long will it take the two of them typing together?
17. A tree casts a shadow 25 m long. At the same time, the shadow cast by a 70 cm tall statue is 64 cm long. Find the height of the tree. Round the results to the nearest unit.
18. Solve. If no solutions exists, state this. $\dfrac{x-9}{x+6} = \dfrac{4}{7}$
19. Solve. If no solutions exists, state this. $\dfrac{y+1}{y+6} - \dfrac{y}{y^2-36} = \dfrac{y-3}{y-6}$
20. Solve. If no solutions exists, state this. $\dfrac{2(x+1)}{x^2-4x+3} + \dfrac{6x}{x-3} = \dfrac{3x}{x-1}$