Multiplying and Dividing Rational Expressions - Key

In problems 1-4, state the domain of each rational expression

1. $x \neq \dfrac{-3}{4}$	2. $x \neq 4,8$
3. $x \neq 1, \dfrac{-5}{4}$	4. x is any real number $(-\infty, \infty)$

In problems 5-11, simplify each rational expression

5. $\dfrac{7}{8x}$	6. $\dfrac{3}{x+2}$
7. $\dfrac{x-8}{x+5}$	8. $\dfrac{x+4}{3x-1}$
9. $\dfrac{-1(x-4)}{x+5}$	10. $\dfrac{3x-7}{x+1}$
11. $x-2$	

In problems 12-17, multiply and simplify each rational expression

12. $\dfrac{1}{7}$	13. 8
14. $\dfrac{2x+5}{x+3}$	15. $x-2$
16. 1	17. $7x-14$ or $7(x-2)$

In problems 18-19, divide and simplify each rational expression

18. $\dfrac{1}{x^2-4}$ or $\dfrac{1}{(x+2)(x-2)}$	19. $\dfrac{x-5}{x+3}$

In problem 20, determine the domain of each rational function

20. $x \neq 3,5$	