Dividing Polynomials; Synthetic Division - Key

In problems 1-4, divide and simplify

1. $3x^2+5x$	2. $\frac{x}{8}-\frac{1}{2}+\frac{1}{4x}$
3. $\frac{1}{xy^4}+\frac{2x}{y^2}-\frac{4y^2}{x^2}$	4. $8x-\frac{4}{x}$

In problems 5-13, divide using long division

5. $x+9$	6. $3x+2+\frac{6}{x-1}$
7. $x-4+\frac{-12}{x-6}$	8. x^2+4x-1
9. $x^2-x-6+\frac{8}{x+1}$	10. $x^2-8x+49+\frac{-297}{x+6}$
11. $x+\frac{x+2}{x^2-1}$	12. $x-1+\frac{x-1}{x^2-x-1}$
13. $x+\frac{-x^3-x+2}{x^4+1}$	

In problems 14-20, divide using synthetic division

14. $x-10$	15. $3x+2$
16. $x+10+\frac{19}{x-2}$	17. $x^2-3x+7+\frac{-17}{x+3}$
18. $x^3+x^2-2x+3+\frac{-7}{x+1}$	19. $x^4-2x^3+4x^2-8x+14+\frac{-27}{x+2}$
20. $2x^2-5x-4+\frac{-5}{x-1}$	