1. $\frac{2x}{y} \div \frac{6y}{x} = \frac{2x}{y} \times \frac{x}{6y} = \frac{x^2}{3} = \boxed{(a)\frac{1}{3}}$
2. If $2x - 5 = 5x + 4$, then $x^2 + x = 6$
3. $16^{3/4} = \boxed{(c)6}$
4. If $(3 + x)^2 = 9 + ax + x^2$ for all x, then $a = \boxed{(a)3}$
5. $\sqrt{\frac{48}{6}} = \boxed{\left(\frac{2\sqrt{3}}{3}\right)}$
6. When $x^4 + x^2 + x + 1$ is divided by $x^2 - 1$, the remainder is $\boxed{(c)x + 1}$
7. If $3x[2 - (3 - 5x)] = ax^2 + bx + c$ for all x, then $a + 2b + 3c = \boxed{(b) - 21}$
8. Solve: $\frac{5-x}{x} = 9$
9. If $3a^2 - 5ab - 2b^2$ is factored, one of the factors might be $\boxed{(c)a - 2b}$
10. Find the real value of x if $\sqrt{4x^2 + 9} = 2$
11. $3\sqrt{2} + \sqrt{5} = \boxed{\left(3\sqrt{5} - 6\right)}$
12. $(x^2y^4z^3)^5 = \boxed{(c)x^{10}y^{-20}z^{-15}}$