1. $\qquad 4x + 6y = 2(2x + 3y)$

2. $\qquad 12xy - 15x + 6yx = 12xy - 15x + 6xy = 18xy - 15x = 3x(6y - 5)$

3. $\qquad 8x^2 - 12xy + 4x^3 = 4x(2x - 3y + x^2)$

4. $\qquad (3 + 2x) \cdot (2 + 3x) = 3 \cdot 2 + 3 \cdot 3x + 2x \cdot 2 + 2x \cdot 3x = 6 + 9x + 4x + 6x^2 = 6x^2 + 13x + 6$

5. $\qquad (x - \dfrac{4}{5})(x + \dfrac{4}{5}) = x^2 - \left(\dfrac{4}{5}\right)^2 = x^2 - \dfrac{16}{25}$

6. $\qquad a^2 + 24a + 144 = (a + 12)^2$

7. $\qquad \dfrac{6x^2 + 15xy}{3x} = \dfrac{3x(2x + 5y)}{3x} = \dfrac{\cancel{3x}(2x + 5y)}{\cancel{3x}} = 2x + 5y$

8. $\qquad \dfrac{3x - 48}{(x - 16)^2} = \dfrac{3\cancel{(x - 16)}}{(x - 16)^{\cancel{2}}} = \dfrac{3}{(x - 16)}$

9. $\qquad \dfrac{2x^2 + 36x + 162}{x + 9} = \dfrac{2(x^2 + 18x + 81)}{x + 9} = \dfrac{2(x + 9)^{\cancel{2}}}{\cancel{x + 9}} = 2(x + 9) = 2x + 18$

10. $\qquad \dfrac{x^2 - 0.25}{x + 0.5} = \dfrac{x^2 - (0.5)^2}{x + 0.5} = \dfrac{(x - 0.5)\cancel{(x + 0.5)}}{\cancel{x + 0.5}} = x - 0.5$