1. Simplify $\frac{\sqrt{x^2} \sqrt{x^3}}{\sqrt{x^2} \sqrt{x^3}}$ where $x > 0$.

2. Rationalize the denominator of $\frac{\sqrt{5} - \sqrt{2}}{2\sqrt{3} + 3\sqrt{2}}$ and write the result in the simplest form.
3. Rewrite the expression $3x \sqrt{8x^4y^4} + 4y \sqrt{64x^8y} + \sqrt{64} - 2$ in the simplest form.

4. Find the coefficient of $a^2b^3$ in the product $(a + b)^2(3a - b)^3$.

5. Which one of the following is a polynomial?
   
   (a) $x^2 + 3x + 2x^{-1}$.
   (b) $\frac{x^3+4}{x-7}$.
   (c) 5.
   (d) $2x + \sqrt{x}$.
   (e) $3(\frac{1}{x})^2$. 