

1. If $\frac{5-2\sqrt{6}}{5+2\sqrt{6}} = b - p\sqrt{6}$, find the values of b and p .
2. Represent $\sqrt{8}$ on the number line.
3. Simplify: $\left(\frac{2^{-1} \times 3^2}{2^2 \times 3^{-4}}\right)^{\frac{7}{2}} \times \left(\frac{2^{-2} \times 3^3}{2^3 \times 3^{-5}}\right)^{-\frac{5}{2}}$
4. Simplify: $\frac{2\sqrt{6}}{\sqrt{2}+\sqrt{3}} + \frac{6\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \frac{8\sqrt{3}}{\sqrt{6}+\sqrt{2}}$
5. If $x = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$, $y = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$, then find the value of $x^2 + y^2$
6. Find the value of: $\frac{3^{30}+3^{29}+3^{28}}{3^{31}+3^{30}-3^{29}}$
7. Evaluate: $\left(\sqrt{5+2\sqrt{6}} + \sqrt{8-2\sqrt{15}}\right)$
8. If $\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}} = a + b\sqrt{15}$, find the values of a and b .
9. Represent $\sqrt{5}$ on the number line.
10. If $a = \frac{3-\sqrt{5}}{3+\sqrt{5}}$ and $b = \frac{3+\sqrt{5}}{3-\sqrt{5}}$, find the value of $a^2 - b^2$.