

1. Represent $\sqrt{5}$ on the number line.
2. Simplify: $\sqrt{50} - \sqrt{98} + \sqrt{162}$
3. If $p = \sqrt{2} - 1$, then find the value of $\left(p - \frac{1}{p}\right)^3$.
4. Find x , if $\left(\frac{2}{3}\right)^3 \left(\frac{3}{2}\right)^{2x} = \frac{81}{16}$
5. Find the value of $\frac{4}{(216)^{-\frac{2}{3}}} - \frac{1}{(256)^{-\frac{3}{4}}}$
6. Find the values of a and b if $\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a + b\sqrt{3}$
7. Show that: $\frac{(x^{(a+b)})^2 (x^{(b+c)})^2 (x^{(c+a)})^2}{(x^a x^b x^c)^4} = 1$
8. Simplify: $\frac{1}{3+\sqrt{7}} + \frac{1}{\sqrt{7}+\sqrt{5}} + \frac{1}{\sqrt{5}+\sqrt{3}} + \frac{1}{\sqrt{3}+1}$
9. If $a = 2$ and $b = 3$, then find the value of $a^b + b^a$
10. If $x = 3 + \sqrt{8}$, find the value of $x^2 + \frac{1}{x^2}$