

Surds: Test Type

1) $\sqrt{45} + \sqrt{80} = a\sqrt{5}$ find a .

2) $\frac{1}{4-\sqrt{13}} = a + b\sqrt{13}$ find a, b .

3) $\frac{6+\sqrt{2}}{3+\sqrt{2}} = a + b\sqrt{2}$ find a, b .

4) $\frac{4+\sqrt{3}}{2+\sqrt{3}} = x + y\sqrt{3}$ find x, y .

5) $\frac{2\sqrt{3} + \sqrt{2}}{\sqrt{3} + \sqrt{2}} = x - \sqrt{y}$ find x, y .

6) Show that $\frac{\sqrt{32} - \sqrt{8}}{3\sqrt{2}}$ is rational.

7) Show that $\frac{4}{2+\sqrt{5}} - \frac{1}{9-4\sqrt{5}}$ is rational.

8) $x = 7 - 4\sqrt{3}$. Show that $x + \frac{1}{x}$ is rational.

- Ans
- ① $7\sqrt{5}$ $a=7$
 - ② $\frac{4}{3} + \frac{1}{3}\sqrt{13}$
 $a = \frac{4}{3}$ $b = \frac{1}{3}$
 - ③ $a = \frac{16}{7}$ $b = -\frac{3}{7}$
 - ④ $x=5$ $y=-2$
 - ⑤ $x=4$ $y=6$
 - ⑥ $\frac{2}{3}$
 - ⑦ -17
 - ⑧ 14