

10) $2 - \sqrt{5}$ irrational

11) $(3 + \sqrt{23}) - \sqrt{23}$
 $= 3 + \cancel{\sqrt{23}} - \cancel{\sqrt{23}}$
 $= 3$ rational

12) $\frac{2\sqrt{7}}{7\sqrt{7}}$
 $= \frac{2}{7}$ rational.

13) $\frac{1}{\sqrt{2}}$ irrational

14) 2π irrational

21) $(3 + \sqrt{3})(2 + \sqrt{2})$
 $= 6 + 3\sqrt{2} + 2\sqrt{3} + \sqrt{6}$

22) $(3 + \sqrt{3})(3 - \sqrt{3})$
 $= 3^2 - (\sqrt{3})^2$
 $= 9 - 3$
 $= 6$

23) $(\sqrt{5} + \sqrt{2})^2$
 $= (\sqrt{5})^2 + 2 \times \sqrt{5} \times \sqrt{2} + (\sqrt{2})^2$
 $= 5 + 2\sqrt{10} + 2$
 $= 7 + 2\sqrt{10}$

24) $(\sqrt{5} - \sqrt{2})(\sqrt{5} + \sqrt{2})$
 $= (\sqrt{5})^2 - (\sqrt{2})^2$
 $= 5 - 2$
 $= 3$

25) visit

www.en.wikipedia.org/wiki/pi