Rationalising the denominator

Rationalise the denominator,

1) $\frac{3}{4+\sqrt{5}}$

2) $\frac{3}{5+\sqrt{2}}$

3) $\frac{2+\sqrt{2}}{4+\sqrt{6}}$

4) $\frac{3}{\sqrt{2}}$

5) $\frac{2}{5+\sqrt{7}}$

6) $\frac{4+\sqrt{3}}{4+\sqrt{5}}$

7) $\frac{2}{5+\sqrt{5}}$

8) $\frac{5}{2+\sqrt{6}}$

9) $\frac{3}{4+\sqrt{5}}$

10) $\frac{3}{5+\sqrt{6}}$

11) $\frac{4+\sqrt{7}}{3+\sqrt{6}}$

12) $\frac{5}{2+\sqrt{5}}$

13) $\frac{4}{3+\sqrt{6}}$

14) $\frac{4}{2+\sqrt{7}}$

15) $\frac{2+\sqrt{6}}{4+\sqrt{7}}$

16) $\frac{2}{\sqrt{7}}$

17) $\frac{5}{5+\sqrt{2}}$

18) $\frac{4}{\sqrt{6}}$

19) $\frac{4+\sqrt{2}}{3+\sqrt{5}}$

20) $\frac{5}{\sqrt{2}}$

Rationalising the denominator

1) $\frac{3}{4+\sqrt{5}} = \frac{12-3\sqrt{5}}{11}$

2) $\frac{3}{5+\sqrt{2}} = \frac{15-3\sqrt{2}}{23}$

3) $\frac{2+\sqrt{2}}{4+\sqrt{6}} = \frac{4-\sqrt{6}+2\sqrt{2}-\sqrt{3}}{5}$

4) $\frac{3}{\sqrt{2}} = \frac{3\sqrt{2}}{2}$

5) $\frac{2}{5+\sqrt{7}} = \frac{5-\sqrt{7}}{9}$

6) $\frac{4+\sqrt{3}}{4+\sqrt{5}} = \frac{16-4\sqrt{5}+4\sqrt{3}-\sqrt{15}}{11}$

7) $\frac{2}{5+\sqrt{5}} = \frac{5-\sqrt{5}}{10}$

8) $\frac{5}{2+\sqrt{6}} = \frac{-10+5\sqrt{6}}{2}$

9) $\frac{3}{4+\sqrt{5}} = \frac{12-3\sqrt{5}}{11}$

10) $\frac{3}{5+\sqrt{6}} = \frac{15-3\sqrt{6}}{19}$

11) $\frac{4+\sqrt{7}}{3+\sqrt{6}} = \frac{12-4\sqrt{6}+3\sqrt{7}-\sqrt{42}}{3}$

12) $\frac{5}{2+\sqrt{5}} = -10+5\sqrt{5}$

13) $\frac{4}{3+\sqrt{6}} = \frac{12-4\sqrt{6}}{3}$

14) $\frac{4}{2+\sqrt{7}} = \frac{-8+4\sqrt{7}}{3}$

15) $\frac{2+\sqrt{6}}{4+\sqrt{7}} = \frac{8-2\sqrt{7}+4\sqrt{6}-\sqrt{42}}{9}$

16) $\frac{2}{\sqrt{7}} = \frac{2\sqrt{7}}{7}$

17) $\frac{5}{5+\sqrt{2}} = \frac{25-5\sqrt{2}}{23}$

18) $\frac{4}{\sqrt{6}} = \frac{4\sqrt{6}}{6}$

19) $\frac{4+\sqrt{2}}{3+\sqrt{5}} = \frac{12-4\sqrt{5}+3\sqrt{2}-\sqrt{10}}{4}$

20) $\frac{5}{\sqrt{2}} = \frac{5\sqrt{2}}{2}$