Rationalize the Denominator
↳ (no $\sqrt{}$ in the denominator)

ex.1 $\dfrac{6}{\sqrt{2}} \times \boxed{\dfrac{\sqrt{2}}{\sqrt{2}}} = \dfrac{6\sqrt{2}}{2} = 3\sqrt{2}$

$\underbrace{}_{one}$

$\sqrt{2} \cdot \sqrt{2} = 2$

2. $\dfrac{5}{2\sqrt{5}} \times \dfrac{\sqrt{5}}{\sqrt{5}} = \dfrac{5\sqrt{5}}{2(5)} = \dfrac{5\sqrt{5}}{10} = \dfrac{\sqrt{5}}{2}$

3. $\dfrac{(4 + 2\sqrt{7})}{\sqrt{3}} \times \dfrac{\sqrt{3}}{\sqrt{3}} = \dfrac{4\sqrt{3} + 2\sqrt{21}}{3}$

ex $\dfrac{\overset{4}{\cancel{8}}\sqrt{3} + \overset{1}{\cancel{2}}\sqrt{7}}{\cancel{2}\,_{1}} = \boxed{4\sqrt{3} + \sqrt{7}}$

$(8\sqrt{3} + 3\sqrt{7})$

$$\frac{((8)\sqrt{3} + (\ldots))}{\textcircled{2}}$$

$a+b$	conjugate	$a-b$
$1+\sqrt{3}$	''	$1-\sqrt{3}$
$\sqrt{2}-5$	''	$\sqrt{2}+5$

4. $\dfrac{2}{(2+\sqrt{2})} \boxed{\dfrac{(2-\sqrt{2})}{(2-\sqrt{2})}}$ = $\dfrac{4-2\sqrt{2}}{\underset{F}{4} \;\; \cancel{-2\sqrt{2}+2\sqrt{2}} \;\; \underset{L}{-2}}$

(under box: *one*)

$$= \frac{^{2}\cancel{4} - \cancel{2}\sqrt{2}}{^{1}\cancel{\textcircled{2}}}$$

$$\boxed{= 2-\sqrt{2}}$$

5. $\dfrac{(5+\sqrt{3})}{(\sqrt{3}-1)} \times \dfrac{(\sqrt{3}+1)}{(\sqrt{3}+1)} = \dfrac{5\sqrt{3}+5+3+\sqrt{3}}{3\;\cancel{+\sqrt{3}-\sqrt{3}}-1}$

$$= \frac{^{3}\cancel{6}\sqrt{3} + \cancel{8}^{4}}{\cancel{\textcircled{2}}_{1}}$$

$$= 3\sqrt{3} + 4$$

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