6.4 a) $3\sqrt{5} + 2\sqrt{3} - \sqrt{5} + 3\sqrt{3}$

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

$= \sqrt{5}(3-1) + \sqrt{3}(2+3)$

$= \sqrt{5} \cdot 2 + \sqrt{3} \cdot 5$

$= 2\sqrt{5} + 5\sqrt{3}$

b) $2\sqrt{3} - 2(\sqrt{2} - \sqrt{3}) = 2\sqrt{3} - 2\sqrt{2} + 2\sqrt{3} = 4\sqrt{3} - 2\sqrt{2}$

c) $(\sqrt{3} + \sqrt{2})^2 = (\sqrt{3})^2 + 2 \cdot \sqrt{3} \cdot \sqrt{2} + (\sqrt{2})^2$

$= 3 + 2 \cdot \sqrt{3 \cdot 2} + 2$

$= 5 + 2\sqrt{6}$

Exim. a) $\sqrt{2} \cdot \sqrt{32} = \sqrt{2 \cdot 32} = \sqrt{64} = 8$

b) $(\sqrt{5})^3 = \underbrace{\sqrt{5} \cdot \sqrt{5}}_{5} \cdot \sqrt{5} = 5 \cdot \sqrt{5} = 5\sqrt{5}$

c) $\frac{\sqrt{60}}{\sqrt{15}} = \sqrt{\frac{60}{15}} = \sqrt{4} = 2$

d) $\sqrt{75} = \sqrt{3 \cdot 25} = \sqrt{3} \cdot \sqrt{25} = \sqrt{3} \cdot 5 = 5\sqrt{3}$

e) $\sqrt{8} + \sqrt{12} - \sqrt{18} + \sqrt{27} = \sqrt{4 \cdot 2} + \sqrt{4 \cdot 3} - \sqrt{9 \cdot 2} + \sqrt{9 \cdot 3}$

$= \sqrt{4} \cdot \sqrt{2} + \sqrt{4} \cdot \sqrt{3} - \sqrt{9} \cdot \sqrt{2} + \sqrt{9} \cdot \sqrt{3} = 2\sqrt{2} + 2\sqrt{3} - 3\sqrt{2} + 3\sqrt{3}$

f) $\sqrt{2} + \sqrt{5}$ ai rezultate $= -\sqrt{2} + 5\sqrt{3} = 5\sqrt{3} - \sqrt{2}$

g) $\sqrt{2}(5 - 2\sqrt{8}) = 5\sqrt{2} - \sqrt{2} \cdot 2\sqrt{8}$

$= 5\sqrt{2} - 2\sqrt{2 \cdot 8}$

$= 5\sqrt{2} - 2 \cdot \sqrt{16}$

$= 5\sqrt{2} - 2 \cdot 4 = 5\sqrt{2} - 8$

6.16 a) Vaite $\sqrt{28 - 10\sqrt{3}} = 5 - \sqrt{3}$ $\lceil \sqrt{16} = 4$ $\begin{cases} 1^\circ\ 4^2 = 16 \not< \\ 2^\circ\ 4 \not\geq 0 \not< \end{cases}$ $\rfloor$

Ied. $1^\circ\ (5 - \sqrt{3})^2 = 5^2 - 2 \cdot 5 \cdot \sqrt{3} + (\sqrt{3})^2$

$= 25 - 10\sqrt{3} + 3$

$= 28 - 10\sqrt{3}$ $\not<$

$2^\circ\ 5 - \sqrt{3} \not\geq 0$ $\not<$

$1^\circ - 2^\circ \Rightarrow$ vaite

6.17 $\sqrt{3} \approx 1{,}732$

a) $\sqrt{300} = \sqrt{3 \cdot 100} = \sqrt{3} \cdot \sqrt{100} \approx 1{,}732 \cdot 10 = \underline{17{,}32}$

b) $\sqrt{30\,000} = \sqrt{3 \cdot 10\,000} = \sqrt{3} \cdot \sqrt{10\,000} \approx 1{,}732 \cdot 100 = \underline{173{,}2}$