

# kontrolloppgaver sinus forkurs

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**2**

*a)*

$$\begin{aligned}\sqrt{12} - \sqrt{27} + \sqrt{48} &= \sqrt{4 * 3} - \sqrt{3 * 9} + \sqrt{12 * 4} \\ &= 2 * \sqrt{3} - \sqrt{3} * 3 + \sqrt{3} * \sqrt{4} * 2 \\ &= 2 * \sqrt{3} - \sqrt{3} * 3 + \sqrt{3} * 2 * 2 \\ &= 2\sqrt{3} - 3\sqrt{3} + 4\sqrt{3} \\ &= 3\sqrt{3}\end{aligned}$$

*b)*

$$\begin{aligned}\sqrt{18} - \sqrt{32} + \sqrt{2} &= \sqrt{9 * 2} - \sqrt{4 * 8} + \sqrt{2} \\ &= 3\sqrt{2} - 2\sqrt{2} * 2 + \sqrt{2} \\ &= 3\sqrt{2} - 2\sqrt{2} * 2 + \sqrt{2} \\ &= 3\sqrt{2} - 4\sqrt{2} + \sqrt{2} \\ &= 0\end{aligned}$$

*c)*

$$\begin{aligned}\sqrt{6} + \sqrt{54} - \sqrt{24} &= \sqrt{2 * 3} + \sqrt{9 * 6} - \sqrt{4 * 6} \\ &= \sqrt{2 * 3} + 3\sqrt{2 * 3} - 2\sqrt{2 * 3} \\ &= 2\sqrt{2 * 3} \\ &= 2\sqrt{6}\end{aligned}$$

**1.196**

a)

$$\begin{aligned}\sqrt{12} - \sqrt{27} + \sqrt{48} &= \sqrt{4 * 3} - \sqrt{3 * 9} + \sqrt{12 * 4} \\ &= 2 * \sqrt{3} - \sqrt{3} * 3 + \sqrt{3} * \sqrt{4} * 2 \\ &= 2 * \sqrt{3} - \sqrt{3} * 3 + \sqrt{3} * 2 * 2 \\ &= 2\sqrt{3} - 3\sqrt{3} + 4\sqrt{3} \\ &= 3\sqrt{3}\end{aligned}$$

b)

$$\begin{aligned}\sqrt{18} - \sqrt{32} + \sqrt{2} &= \sqrt{9 * 2} - \sqrt{4 * 8} + \sqrt{2} \\ &= 3\sqrt{2} - 2\sqrt{2 * 4} + \sqrt{2} \\ &= 3\sqrt{2} - 2\sqrt{2} * 2 + \sqrt{2} \\ &= 3\sqrt{2} - 4\sqrt{2} + \sqrt{2} \\ &= 0\end{aligned}$$

c)

$$\begin{aligned}\sqrt{6} + \sqrt{54} - \sqrt{24} &= \sqrt{2 * 3} + \sqrt{9 * 6} - \sqrt{4 * 6} \\ &= \sqrt{2 * 3} + 3\sqrt{2 * 3} - 2\sqrt{2 * 3} \\ &= 2\sqrt{2 * 3} \\ &= 2\sqrt{6}\end{aligned}$$