

Tugas Matematika Kelas X – Bentuk Akar

Nama/No. : _____/____

Sederhanakan bentuk akar berikut!

1. $12\sqrt{6} - 7\sqrt{6} + 3\sqrt{6} = \underline{\hspace{1cm}}\sqrt{6}$

2. $6\sqrt{5} + \sqrt{5} - 20\sqrt{5} = \underline{\hspace{1cm}}\sqrt{5}$

3. $\sqrt{12} + \sqrt{27} + \sqrt{75} = \sqrt{\underline{\hspace{1cm}} \cdot 3} + \sqrt{\underline{\hspace{1cm}} \cdot 3} + \sqrt{\underline{\hspace{1cm}} \cdot 3}$
 $= \underline{\hspace{1cm}}\sqrt{3} + \underline{\hspace{1cm}}\sqrt{3} + \underline{\hspace{1cm}}\sqrt{3} = \underline{\hspace{1cm}}\sqrt{3}$

4. $\sqrt{700} + \sqrt{180} + \sqrt{80} - \sqrt{847} = \sqrt{\underline{\hspace{1cm}} \cdot 7} + \sqrt{\underline{\hspace{1cm}} \cdot 5} + \sqrt{\underline{\hspace{1cm}} \cdot 5} - \sqrt{\underline{\hspace{1cm}} \cdot 7}$
 $= \underline{\hspace{1cm}}\sqrt{7} + \underline{\hspace{1cm}}\sqrt{5} + \underline{\hspace{1cm}}\sqrt{5} - \underline{\hspace{1cm}}\sqrt{7}$
 $= \underline{\hspace{1cm}}\sqrt{7} + \underline{\hspace{1cm}}\sqrt{5}$

5. $2\sqrt{150} - 3\sqrt{54} - \sqrt{297} + 3\sqrt{486} = 2\sqrt{\underline{\hspace{1cm}} \cdot 6} - 3\sqrt{\underline{\hspace{1cm}} \cdot 6} - \sqrt{\underline{\hspace{1cm}} \cdot 33} + 3\sqrt{\underline{\hspace{1cm}} \cdot 6}$
 $= 2 \cdot \underline{\hspace{1cm}}\sqrt{6} - 3 \cdot \underline{\hspace{1cm}}\sqrt{6} - \underline{\hspace{1cm}}\sqrt{33} + 3 \cdot \underline{\hspace{1cm}}\sqrt{6}$
 $= \underline{\hspace{1cm}}\sqrt{6} - \underline{\hspace{1cm}}\sqrt{6} + \underline{\hspace{1cm}}\sqrt{6} - \underline{\hspace{1cm}}\sqrt{33}$
 $= \underline{\hspace{1cm}}\sqrt{6} - \underline{\hspace{1cm}}\sqrt{33}$

6. $\sqrt{50} \cdot \sqrt{20} = \sqrt{50 \cdot \underline{\hspace{1cm}}} = \sqrt{\underline{\hspace{1cm}}} = \sqrt{\underline{\hspace{1cm}} \cdot 10} = \underline{\hspace{1cm}}\sqrt{10}$

7. $2\sqrt{3}(2\sqrt{40} + \sqrt{12}) = 2\sqrt{3} \cdot \underline{\hspace{1cm}}\sqrt{40} + 2\sqrt{3} \cdot \sqrt{\underline{\hspace{1cm}}}$
 $= \underline{\hspace{1cm}}\sqrt{3 \cdot \underline{\hspace{1cm}}} + 2\sqrt{3 \cdot \underline{\hspace{1cm}}}$
 $= \underline{\hspace{1cm}}\sqrt{4 \cdot \underline{\hspace{1cm}}} + 2\sqrt{\underline{\hspace{1cm}}}$
 $= \underline{\hspace{1cm}} \cdot 2\sqrt{\underline{\hspace{1cm}}} + 2 \cdot \underline{\hspace{1cm}}$
 $= \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} + \underline{\hspace{1cm}}$

8. $(\sqrt{2} + \sqrt{5}) \cdot (\sqrt{2} - \sqrt{5}) = \underline{\hspace{1cm}} - \sqrt{\underline{\hspace{1cm}}} + \sqrt{\underline{\hspace{1cm}}} - \underline{\hspace{1cm}}$
 $= 2 - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

9. $(2\sqrt{5} - 3\sqrt{3}) \cdot (2\sqrt{5} + 3\sqrt{3}) = 4 \cdot \underline{\hspace{1cm}} - 6 \cdot \sqrt{\underline{\hspace{1cm}}} + \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} - 9 \cdot \underline{\hspace{1cm}}$
 $= \underline{\hspace{1cm}} - 6 \cdot \sqrt{\underline{\hspace{1cm}}} + \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} - \underline{\hspace{1cm}}$
 $= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

10. $(3 + \sqrt{5}) \cdot (3 - \sqrt{5}) = \underline{\hspace{1cm}} - \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} + \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} - \underline{\hspace{1cm}}$
 $= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$