

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

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

$$= \underline{\hspace{1cm}}\sqrt{3 \cdot \underline{\hspace{1cm}}} + 2\sqrt{3 \cdot \underline{\hspace{1cm}}}$$

$$= \underline{\hspace{1cm}}\sqrt{4 \cdot \underline{\hspace{1cm}}} + 2\sqrt{\underline{\hspace{1cm}}}$$

$$= \underline{\hspace{1cm}} \cdot 2\sqrt{\underline{\hspace{1cm}}} + 2 \cdot \underline{\hspace{1cm}}$$

$$= \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} + \underline{\hspace{1cm}}$$

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

$$= 2 - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

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

$$= \underline{\hspace{1cm}} - 6 \cdot \sqrt{\underline{\hspace{1cm}}} + \underline{\hspace{1cm}}\sqrt{\underline{\hspace{1cm}}} - \underline{\hspace{1cm}}$$

$$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

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

$$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$