LEMBAR KEGIATAN PESERTA DIDIK (LKPD) – MATEMATIKA KELAS X
EKSPONEN (4)

Materi : **Bentuk Akar**
Nama : _____ Kelas/No : _____
Petunjuk : **Klik pada tempat isian untuk menjawab, dan tuliskan jawabanmu.**

Setelah mempelajari materi bentuk akar, lengkapi LKPD berikut!

1. Sederhankan bentuk akar berikut!

   a. $\sqrt{24} = \sqrt{4.__} = \sqrt{4}.\sqrt{__} = 2\sqrt{__}$

   b. $\sqrt{50} = \sqrt{25.__} = \sqrt{25}.\sqrt{__} = __\sqrt{__}$

   c. $\sqrt{72} = \sqrt{36.__} = \sqrt{__}.\sqrt{__} = __\sqrt{__}$

   d. $\sqrt{80} = \sqrt{16.__} = \sqrt{__}.\sqrt{__} = __\sqrt{__}$

   e. $\sqrt{98} = \sqrt{__.2} = \sqrt{__}.\sqrt{2} = __\sqrt{2}$

   f. $\sqrt{108} = \sqrt{__.3} = \sqrt{__}.\sqrt{3} = __\sqrt{3}$

   g. $\sqrt{150} = \sqrt{__.6} = \sqrt{__}.\sqrt{6} = __\sqrt{6}$

   h. $\sqrt{128} = \sqrt{__.__} = \sqrt{__}.\sqrt{__} = __\sqrt{__}$

2. Tentukan hasil dari:

   a. $2\sqrt{3} + 5\sqrt{3} - 4\sqrt{3} = (2 + 5 - __)\sqrt{3} = __\sqrt{3}$

   b. $\sqrt{2} - 2\sqrt{2} + 6\sqrt{2} = (1 - __ + __)\sqrt{2} = __\sqrt{2}$

   c. $5\sqrt{3} - 3\sqrt{2} - 4\sqrt{3} + 2\sqrt{2} = (5 - __)\sqrt{3} + (-3 + __)\sqrt{2} = __\sqrt{3} - __\sqrt{2}$

   d. $\sqrt{48} + \sqrt{75} - \sqrt{12} = \sqrt{16.__} + \sqrt{__.3} - \sqrt{4.__} = 4\sqrt{__} + __\sqrt{3} - 2\sqrt{__} = (4 + __ - 2)\sqrt{__} = __\sqrt{__}$

   e. $\sqrt{98} - \sqrt{162} + \sqrt{32} = __\sqrt{__} - __\sqrt{__} + __\sqrt{__} = __\sqrt{__}$

3. Tentukan hasil dari:

   a. $\sqrt{20}.\sqrt{18} = 2\sqrt{5}.3\sqrt{2} = (2.__)\sqrt{5.__} = __\sqrt{10}$

   b. $2\sqrt{27}.3\sqrt{45} = 2.__\sqrt{3}.3.3\sqrt{__} = (__.9)\sqrt{3.__} = __\sqrt{__}$

   c. $\sqrt{5}(2 + 3\sqrt{12}) = \sqrt{5}(2 + 3.2\sqrt{__}) = 2\sqrt{5} + __\sqrt{15}$

   d. $(2 + \sqrt{2})(1 - \sqrt{2}) = 2.1 + 2\sqrt{__} + 1\sqrt{__} - \sqrt{2}.\sqrt{__} = 2 + 3\sqrt{__} - __$

   e. $(2\sqrt{3} + \sqrt{2})(4\sqrt{3} - \sqrt{2}) = 8.3 - 2\sqrt{__} + 4\sqrt{__} - \sqrt{2}.\sqrt{__} = 24 + 2\sqrt{__} - __$

4. Tentukan bentuk rasional dari:

   a. $\dfrac{2}{\sqrt{3}} = \dfrac{2}{\sqrt{3}} \times \dfrac{\sqrt{3}}{\sqrt{3}} = \dfrac{2\sqrt{__}}{__}$

   b. $\dfrac{4}{2 - \sqrt{3}} = \dfrac{4}{2 - \sqrt{3}} \times \dfrac{__ + \sqrt{3}}{2 + \sqrt{3}} = \dfrac{4(2 + \sqrt{3})}{__ - 3} = 8 + __\sqrt{__}$

   c. $\dfrac{4}{\sqrt{5} + \sqrt{3}} = \dfrac{4}{\sqrt{5} + \sqrt{3}} \times \dfrac{\sqrt{5} - \sqrt{__}}{\sqrt{5} - \sqrt{__}} = \dfrac{4(\sqrt{5} - \sqrt{__})}{__ - __} = \dfrac{4(\sqrt{5} - \sqrt{__})}{2} = 2(\sqrt{5} - \sqrt{__})$

LIVEWORKSHEETS