LEMBAR KEGIATAN PESERTA DIDIK (LKPD)
MATEMATIKA X

Materi : **Bentuk Akar**
Kelas/Semester : **X/Gasal**
Kegiatan 1

Nama :
Kelas/ No : /

1. Pahami konsep berkaitan dengan operasi bentuk akar berikut.

   1. $a\sqrt{p}+b\sqrt{p}=(a+b)\sqrt{p}$
   2. $a\sqrt{p}-b\sqrt{p}=(a-b)\sqrt{p}$
   3. $a.b\sqrt{p}=ab\sqrt{p}$
   4. $a\sqrt{p}.b\sqrt{q}=a.b\sqrt{pq}$
   5. $\frac{\dots}{\sqrt{a}}=\frac{\dots}{\sqrt{a}}\times\frac{\sqrt{a}}{\sqrt{a}}$ *(sekawan dari $\sqrt{a}$ adalah $\sqrt{a}$)*
   6. $\frac{\dots}{\sqrt{a}+\sqrt{b}}=\frac{\dots}{\sqrt{a}+\sqrt{b}}\times\frac{\sqrt{a}-\sqrt{b}}{\sqrt{a}-\sqrt{b}}$ *(sekawan dari $\sqrt{a}+\sqrt{b}$ adalah $\sqrt{a}-\sqrt{b}$)*
   7. $\frac{\dots}{\sqrt{a}-\sqrt{b}}=\frac{\dots}{\sqrt{a}-\sqrt{b}}\times\frac{\sqrt{a}+\sqrt{b}}{\sqrt{a}+\sqrt{b}}$ *(sekawan dari $\sqrt{a}-\sqrt{b}$ adalah $\sqrt{a}+\sqrt{b}$*

2. Selesaikan operasi bentuk akar berikut.

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

b. $3(5\sqrt{2})=$ $\times$ $\sqrt{2}=$ $\sqrt{2}$

c. $2\sqrt{3}.4\sqrt{5}=2.4.\sqrt{3}.\sqrt{5}=$ $\sqrt{15}$

d. $3\sqrt{5}+\sqrt{20}-\frac{1}{3}\sqrt{45}=3\sqrt{5}+\sqrt{4.5}-\frac{1}{3}.\sqrt{9.5}$

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

e. $3\sqrt{24}-\sqrt{150}+2\sqrt{54}=3\sqrt{4.6}-\sqrt{25.6}+2.\sqrt{9.6}$

$=3.\sqrt{6}-\sqrt{6}+2.\sqrt{6}=($ $-$ $+$ $)\sqrt{6}$

$=\sqrt{6}$

f. $\sqrt{320}+\frac{1}{2}\sqrt{500}-\sqrt{125}=\sqrt{64.5}+\frac{1}{2}\sqrt{100.5}-\sqrt{25.5}$

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

g. $2\sqrt{3}(5\sqrt{6}-4\sqrt{3})=2\sqrt{3}.5\sqrt{6}-2\sqrt{3}.4\sqrt{3}$

$= \sqrt{18} - 8\sqrt{9} = \sqrt{9.2} - 8.3 = \sqrt{2} - 24$

h. $(3-\sqrt{5})(3+\sqrt{5}) = 3^2 - (\sqrt{5})^2 = \quad -5 =$

i. $(\sqrt{5}-\sqrt{2})(\sqrt{5}+\sqrt{2}) = (\sqrt{5})^2 - (\sqrt{2})^2 = \quad - \quad =$

j. $(1+\sqrt{2})(3-4\sqrt{2}) = 1.3 - 1.4\sqrt{2} + \sqrt{2}.3 - \sqrt{2}.4\sqrt{2}$

$= \quad -4\sqrt{2} + 3\sqrt{2} - 4\sqrt{4} = \quad -1\sqrt{2} - 4.2 = \quad -\sqrt{2}$

k. $\frac{10}{\sqrt{2}} = \frac{10}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{10\sqrt{2}}{} = \quad \sqrt{2}$

l. $\frac{\sqrt{2}}{6\sqrt{3}} = \frac{\sqrt{2}}{6\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{6}}{6.} = \frac{\sqrt{6}}{}$

m. $\frac{8\sqrt{5}}{3+\sqrt{5}} = \frac{8\sqrt{5}}{3+\sqrt{5}} \times \frac{3-\sqrt{5}}{3-\sqrt{5}} = \frac{8\sqrt{5}(3-\sqrt{5})}{3^2-(\sqrt{5})^2}$

$$= \frac{8\sqrt{5}(3-\sqrt{5})}{3^2-(\sqrt{5})^2} = \frac{8\sqrt{5}(3-\sqrt{5})}{9-5}$$

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

n. $\frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}} = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}} \times \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}-\sqrt{2}} = \frac{(\sqrt{3}-\sqrt{2})(\sqrt{3}-\sqrt{2})}{(\sqrt{3})^2-(\sqrt{2})^2}$

$$= \frac{\sqrt{3}.\sqrt{3} - \sqrt{6} - \sqrt{6} + \sqrt{2}.\sqrt{2}}{(\sqrt{3})^2 - (\sqrt{2})^2}$$

$$= \frac{- \quad \sqrt{6} +}{1} = \quad - \quad \sqrt{6}$$