Algebra 1 Weds. 2-6-13 Class Notes

(57) $(a^2 b^4)^{\frac{1}{2}} \sqrt[3]{b^6}$

$a^1 b^2 \; b^{\frac{6}{3}}$

$a\, b^2 b^2 = \boxed{a b^4}$

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(53) $\sqrt[3]{8m^3} = (8m^3)^{\frac{1}{3}}$

$8^{\frac{1}{3}} \; m^{3 \cdot \frac{1}{3}}$

$\boxed{2m}$

Homework Review

(Ex) $\frac{1}{x^{\frac{2}{3}}} \cdot \frac{x^{\frac{1}{3}}}{x^{\frac{1}{3}}} = \boxed{\frac{x^{\frac{1}{3}}}{x^1}}$

(Ex) $\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \boxed{\frac{\sqrt{3}}{3}}$

CASUAL × FORMAL $1x^1$

(33) $\frac{(r^2)^{-\frac{1}{2}}}{r^{-\frac{1}{3}}} = \frac{r^{\frac{1}{3}}}{(r^2)^{\frac{1}{2}}} = \boxed{\frac{r^{\frac{1}{3}}}{r}}$

(40) $\frac{p^{\frac{3}{2}} p^2}{(p^2)^{\frac{3}{2}}} = \frac{p^{\frac{3}{2}+\frac{2}{1}}}{p^{\frac{6}{2}}} = \frac{p^{\frac{3}{2}+\frac{4}{2}}}{p^3} = \frac{p^{\frac{7}{2}}}{p^3}$

$p^{\frac{7}{2}-\frac{3}{1}} = p^{\frac{7}{2}-\frac{6}{2}} = \boxed{p^{\frac{1}{2}}}$

LAP BOARD PRACTICE
(MOSTLY WORKSHEET PROBLEMS)

Write in radical form

(3) $(3p)^{\frac{5}{4}} = \sqrt[4]{(3p)^5}$ or $\left(\sqrt[4]{3p}\right)^5$

(11) $v^{-\frac{1}{2}} = \frac{1}{v^{\frac{1}{2}}} = \frac{1}{\sqrt[2]{v^1}} \cdot \frac{\sqrt[2]{v}}{\sqrt[2]{v}}$

$= \frac{\sqrt{v}}{v}$ SIMPLIFIED

(7) $(10m^2)^{\frac{1}{5}} = \sqrt[5]{10m^2}$

Write in exponential form

(23) $\left(\sqrt[3]{4v}\right)^5 = (4v)^{\frac{5}{3}}$

or $4^{\frac{5}{3}} v^{\frac{5}{3}}$

? = 2!

(25) $\left(\sqrt{p}\right)^3 = p^{\frac{3}{2}}$

(20) $\left(\sqrt[3]{6k}\right)^4 = (6k)^{\frac{4}{3}}$

(46) $\left(\dfrac{x^{-1}}{x^{-\frac{1}{3}}\left(x^{-\frac{3}{2}}\right)^{-2} x^{\frac{5}{3}}} \right)^{-1}$

$= \left(\dfrac{1}{x^{1} x^{-\frac{1}{3}} x^{\frac{6}{2}} x^{\frac{5}{3}}} \right)^{-1}$

$= \left(\dfrac{1}{x^{4} x^{-\frac{1}{3}} x^{\frac{5}{3}}} \right)^{-1}$

$= \left(\dfrac{1}{x^{\frac{16}{3}}} \right)^{-1}$

$= \dfrac{1}{\frac{1}{x^{\frac{16}{3}}}} = \boxed{x^{\frac{16}{3}}}$

$x^1 + x^3 = x^4$

$\frac{4}{1} + \frac{1}{3} + \frac{5}{3}$

$\frac{12}{3} - \frac{1}{3} + \frac{5}{3} = \frac{16}{3}$