Algebra 2 Bellwork Monday, April 27, 2015 3rd hour

1. Simplify. Use absolute value symbols when necessary.

$\sqrt[4]{48w^{22}x^{13}y^{61}}$

2. Simplify. Assume all variables are positive.

$\sqrt{14a^7b^3} \cdot \sqrt{10ab^4} \cdot \sqrt{21a^2b^{11}}$

3. Rationalize the denominator. Assume all variables are positive.

a) $\dfrac{4g}{\sqrt[3]{6g^5h^{11}}}$ b) $\dfrac{5-\sqrt{2}}{\sqrt{3}+\sqrt{6}}$

4. Solve. $3\sqrt{4x-1}-6=6$

Algebra 2 Bellwork Monday, April 27, 2015 3rd hour Answers

1. Simplify. Use absolute value symbols when necessary.

$2^4=16$

$\sqrt[4]{48w^{22}x^{13}y^{61}} = 2|w^5|\cdot|x^3|\cdot|y^{15}|\sqrt[4]{3w^2xy}$

($48 = 16\cdot3$)

2. Simplify. Assume all variables are positive.

$\sqrt{14a^7b^3} \cdot \sqrt{10ab^4} \cdot \sqrt{21a^2b^{11}} = \sqrt{7^2\cdot2^2\cdot5\cdot3\,a^{10}b^{18}} = 7\cdot2\cdot a^5b^9\sqrt{5\cdot3} = 14a^5b^9\sqrt{15}$

($14 = 7\cdot2$, $10 = 5\cdot2$, $21 = 7\cdot3$)

3. Rationalize the denominator. Assume all variables are positive.

a) $\dfrac{4g}{\sqrt[3]{6g^5h^{11}}}\cdot\dfrac{\sqrt[3]{6^2gh}}{\sqrt[3]{6^2gh}} = \dfrac{4g\sqrt[3]{6^2gh}}{\sqrt[3]{6^3g^6h^{12}}}$

$= \dfrac{4g\sqrt[3]{6^2gh}}{6g^2h^4} = \dfrac{2\sqrt[3]{36gh}}{3gh^4}$

b) $\dfrac{5-\sqrt{2}}{\sqrt{3}+\sqrt{6}}\cdot\dfrac{\sqrt{3}-\sqrt{6}}{\sqrt{3}-\sqrt{6}} = \dfrac{7\sqrt{3}-6\sqrt{6}}{3-6} = \dfrac{7\sqrt{3}-6\sqrt{6}}{-3}$

	5	$-\sqrt{2}$
$\sqrt{3}$	$5\sqrt{3}$	$-\sqrt{6}$
$-\sqrt{6}$	$-5\sqrt{6}$	$+\sqrt{12} = +2\sqrt{3}$

4. Solve. $3\sqrt{4x-1}-6=6$

$+6 \quad +6$

$\dfrac{3\sqrt{4x-1}}{3} = \dfrac{12}{3}$

$(\sqrt{4x-1})^2 = (4)^2$

$4x-1=16$

$4x=17$

$x=\dfrac{17}{4}$