Sec II Name_____

Unit 3 Exponent Review 2

Period____

Simplify. Your answer should contain only positive exponents.

1) $\left(\dfrac{2y^4}{\left(x^2y^2\right)^3 \cdot x^2y^3}\right)^2$

2) $\left(\dfrac{2q^3 \cdot 2p^4r^2}{qp^4}\right)^3$

3) $\dfrac{zx^4}{\left(2x^0y^0\right)^0 \cdot x^4y^{-2}z^4}$

4) $\left(\dfrac{a^{-1}b^{-4}c^0 \cdot ca^{-4}b^{-4}}{2a^2b^{-1}c^2}\right)^2$

5) $\dfrac{\left(2xzy^2\right)^0}{2x^{-4}y^{-1}z^{-2} \cdot x^{-4}z^{-1}}$

6) $\left(\dfrac{mn^{-2}}{2m^2n^2p^{-1} \cdot np^0}\right)^{-3}$

Write each expression in exponential form.

7) $\sqrt{6r}$

8) $\sqrt[3]{5v}$

9) $\left(\sqrt[3]{5a}\right)^5$

10) $\left(\sqrt[3]{5n}\right)^2$

Write each expression in radical form.

11) $(10v)^{\frac{3}{2}}$

12) $(5b)^{\frac{5}{4}}$

13) $(3v)^{\frac{1}{4}}$

14) $(5n)^{\frac{3}{2}}$

Sec II Name_____

Unit 3 Exponent Review 2

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Simplify. Your answer should contain only positive exponents.

1) $\left(\frac{2y^4}{(x^2y^2)^3 \cdot x^2y^3}\right)^2$

$\frac{4}{x^{16}y^{10}}$

2) $\left(\frac{2q^3 \cdot 2p^4r^2}{qp^4}\right)^3$

$64q^6r^6$

3) $\frac{zx^4}{(2x^0y^0)^0 \cdot x^4y^{-2}z^4}$

$\frac{y^2}{z^3}$

4) $\left(\frac{a^{-1}b^{-4}c^0 \cdot ca^{-4}b^{-4}}{2a^2b^{-1}c^2}\right)^2$

$\frac{1}{4a^{14}b^{14}c^2}$

5) $\frac{(2xzy^2)^0}{2x^{-4}y^{-1}z^{-2} \cdot x^{-4}z^{-1}}$

$\frac{x^8yz^3}{2}$

6) $\left(\frac{mn^{-2}}{2m^2n^2p^{-1} \cdot np^0}\right)^{-3}$

$\frac{8n^{15}m^3}{p^3}$

Write each expression in exponential form.

7) $\sqrt{6r}$ $(6r)^{\frac{1}{2}}$

8) $\sqrt[3]{5v}$ $(5v)^{\frac{1}{3}}$

9) $(\sqrt[3]{5a})^5$ $(5a)^{\frac{5}{3}}$

10) $(\sqrt[3]{5n})^2$ $(5n)^{\frac{2}{3}}$

Write each expression in radical form.

11) $(10v)^{\frac{3}{2}}$

$(\sqrt{10v})^3$

12) $(5b)^{\frac{5}{4}}$

$(\sqrt[4]{5b})^5$

13) $(3v)^{\frac{1}{4}}$

$\sqrt[4]{3v}$

14) $(5n)^{\frac{3}{2}}$

$(\sqrt{5n})^3$