Bellwork Alg 2 Thursday, January 23, 2020

Remember: $a^{\frac{m}{n}} = \sqrt[n]{a^m}$ or $(\sqrt[n]{a})^m$

1. Write each in exponential form.

a) $\sqrt[3]{m^8}$ b) $4\sqrt{x^9}$ c) $\sqrt[7]{9a^2}$

2. Write each in radical form.

a) $Q^{\frac{4}{7}}$ b) $(5g)^{\frac{3}{2}}$ c) $10P^{\frac{1}{5}}$

3. State all the real fifth roots of $1,048,576$.

4. State all the real fourth roots of $20,736$.

5. Simplify. $\sqrt{54}$

6. Find all EXACT solutions. $2x^2 - 11 = 85$

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ANSWERS

Remember: $a^{\frac{m}{n}} = \sqrt[n]{a^m}$ or $(\sqrt[n]{a})^m$

1. Write each in exponential form.

a) $\sqrt[3]{m^8}$ $m^{\frac{8}{3}}$

b) $4\sqrt{x^9}$ $4x^{\frac{9}{2}}$

c) $\sqrt[7]{9a^2}$ $(9a^2)^{1/7}$ or $9^{1/7}a^{2/7}$

2. Write each in radical form.

a) $Q^{\frac{4}{7}}$ $\sqrt[7]{Q^4}$ or $(\sqrt[7]{Q})^4$

b) $(5g)^{\frac{3}{2}}$ $\sqrt{(5g)^3}$ or $(\sqrt{5g})^3$

c) $10P^{\frac{1}{5}}$ $10\sqrt[5]{P}$

3. State all the real fifth roots of $1,048,576$.

16

4. State all the real fourth roots of $20,736$.

± 12

5. Simplify. $\sqrt{54}$

$= \sqrt{9 \cdot 6}$

$= 3\sqrt{6}$

6. Find all EXACT solutions. $2x^2 - 11 = 85$

$+11 \quad +11$

$\frac{2x^2}{2} = \frac{96}{2}$

$\sqrt{x^2} = \sqrt{48} = \sqrt{16 \cdot 3}$

$x = \pm 4\sqrt{3}$