

Name:

Date: Score:

Rational Exponents

Write each in radical form

1 $(a^6)^{\frac{3}{2}}$

2 $(64)^{\frac{7}{6}}$

3 $81^{-\frac{3}{4}}$

4 $43^{\frac{1}{5}}$

Write each in exponential form

5 $(\sqrt[3]{7n})^5$

6 $(\sqrt[3]{6x})^4$

7 $(\sqrt{10x})^5$

8 $(\sqrt[6]{2p})^5$

Simplify

9 $(p^4)^{\frac{3}{2}}$

10 $(27q^6)^{\frac{5}{3}}$

11 $(81r^{12})^{1.25}$

12 $(64m^4)^{\frac{3}{2}}$

Name:

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Rational Exponents

Answers

1 $(a^6)^{\frac{3}{2}}$

$$\sqrt[2]{a^{18}}$$

3 $81^{-\frac{3}{4}}$

$$\frac{1}{\sqrt[4]{81^3}}$$

5 $(\sqrt[3]{7n})^5$

$$(7n)^{\frac{5}{3}}$$

7 $(\sqrt{10x})^5$

$$(10x)^{\frac{1}{5}}$$

9 $(p^4)^{\frac{3}{2}}$

$$p^6$$

11 $(81r^{12})^{1.25}$

$$81\sqrt[4]{3^4} \cdot r^{15}$$

2 $(64)^{\frac{7}{6}}$

$$64\sqrt[6]{2^6}$$

4 $43^{\frac{1}{5}}$

$$\sqrt[5]{43}$$

6 $(\sqrt[3]{6x})^4$

$$(6x)^{\frac{4}{3}}$$

8 $(\sqrt[6]{2p})^5$

$$(2p)^{\frac{5}{6}}$$

10 $(27q^6)^{\frac{5}{3}}$

$$27\sqrt[3]{9^3} \cdot q^{10}$$

12 $(64m^4)^{\frac{3}{2}}$

$$64\sqrt[2]{2^6} \cdot m^6$$