

Simplify each.

1. $\frac{\sqrt{24}}{\sqrt{6}}$

2. $\frac{\sqrt[3]{m^5}}{\sqrt[3]{m^3}}$

Simplify each. Use absolute value symbols where necessary.

3. $\sqrt{16m^{10}}$

4. $\sqrt[3]{8w^{15}}$

5. $\sqrt[4]{81c^{24}}$

6. $\sqrt[3]{P^{20}Q^{35}}$

7. $\sqrt{20g^{34}h^{28}}$

8. $\sqrt[3]{128a^{33}b^{18}}$

Simplify each.

1. $\frac{\sqrt{24}}{\sqrt{6}}$

$= \sqrt{\frac{24}{6}}$

$= \sqrt{4}$

$= \boxed{2}$

2. $\frac{\sqrt[3]{m^5}}{\sqrt[4]{m^3}}$

$= \frac{m^{\frac{5}{3}}}{m^{\frac{3}{4}}} = m^{\frac{5}{3} - \frac{3}{4}}$
 $= m^{\frac{20}{12} - \frac{9}{12}}$

$= \boxed{m^{\frac{11}{12}} \text{ or } \sqrt[12]{m^{11}}}$

Simplify each. Use absolute value symbols where necessary.

3. $\sqrt{16m^{10}}$

$= \boxed{4|m^5|}$

EVEN ROOT -
MIGHT NEED
ABS. VAL.

Since m^5 could be
neg. put ABS. VAL.
around this.

4. $\sqrt[3]{8w^{15}}$

$= \boxed{2w^5}$

ODD ROOT
MEANS
NO ABS. VAL.

5. $\sqrt[4]{81c^{24}}$

$= \boxed{3c^6}$

EVEN ROOT - MIGHT NEED
ABS. VAL.

Since c^6 will be pos
NO ABS. VAL. needed

6. $\sqrt[3]{p^{20}q^{35}}$

$= \boxed{p^4q^7}$

ODD ROOT
MEANS
NO ABS. VAL.

7. $\sqrt[4.5]{20g^{34}h^{28}}$

$= \boxed{2|g^{17}|h^{14}\sqrt{5}}$

EVEN ROOT - MIGHT
NEED ABS. VAL.

- Since g^{17} could be
neg. put ABS. VAL.
around this.

- but h^{14} will be
pos. NO ABS VAL
around this

8. $\sqrt[64.2]{128a^{33}b^{18}}$

$= 4a^{11}b^6\sqrt[3]{2}$

ODD ROOT
MEANS NO
ABS. VAL.