

Assignment

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Simplify.

1) $3x^{\frac{3}{2}} \cdot 3x^2$

2) $3p^{\frac{1}{3}} \cdot p^{\frac{3}{2}}$

3) $3m^{\frac{3}{2}} \cdot m^{\frac{5}{3}}$

4) $3n^2 \cdot 2n^{\frac{1}{2}} \cdot n^{\frac{5}{3}}$

5) $3n^{\frac{2}{3}} \cdot 3n^{\frac{1}{2}}$

6) $(x^2)^{\frac{2}{3}}$

7) $\left(b^{\frac{1}{2}}\right)^{\frac{1}{3}}$

8) $\left(a^{\frac{2}{3}}\right)^{\frac{3}{2}}$

9) $(r^2)^{\frac{3}{2}}$

10) $(n^2)^{\frac{2}{3}}$

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

$$11) \frac{3x^{\frac{5}{3}}}{3x^{\frac{1}{2}}}$$

$$12) \frac{2x^2}{3x}$$

$$13) \frac{3n^{\frac{2}{3}}}{2n^{\frac{1}{2}}}$$

$$14) \frac{v}{3v^2}$$

$$15) \frac{k^{\frac{5}{3}}}{2k^{\frac{4}{3}}}$$

$$16) \frac{y^{\frac{1}{2}}}{x^{\frac{1}{2}} y^{\frac{1}{3}} \cdot \left(x^{\frac{5}{4}}\right)^2}$$

$$17) \frac{x^{-\frac{1}{2}} y^{\frac{4}{4}} \cdot x^{-\frac{5}{4}} y^{\frac{4}{3}}}{\left(x^{\frac{1}{2}} y^{-\frac{1}{2}}\right)^{\frac{1}{2}}}$$

$$18) \frac{\left(a^{-\frac{3}{2}} b^{\frac{1}{4}}\right)^{\frac{5}{3}}}{ab^2 \cdot ab^{\frac{1}{4}}}$$

$$19) \frac{\left(vu^{\frac{7}{4}}\right)^{-\frac{5}{4}}}{vu^2 \cdot v^{-1}}$$

$$20) \frac{u^{\frac{3}{2}} v^{\frac{7}{4}} \cdot u^{\frac{1}{2}}}{u^{-\frac{4}{3}}}$$

Answers to Assignment (ID: 1)

$$1) 9x^{\frac{7}{2}}$$

$$5) 9n^{\frac{7}{6}}$$

$$9) r^3$$

$$13) \frac{3n^{\frac{1}{6}}}{2}$$

$$17) \frac{y^{\frac{67}{12}}}{x^2}$$

$$2) 3p^{\frac{11}{6}}$$

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

$$10) n^{\frac{4}{3}}$$

$$14) \frac{1}{3v}$$

$$18) \frac{b^{\frac{1}{6}} a^{\frac{1}{2}}}{b^2 a^5}$$

$$3) 3m^{\frac{19}{6}}$$

$$7) b^{\frac{1}{6}}$$

$$11) x^{\frac{7}{6}}$$

$$15) \frac{k^{\frac{1}{3}}}{2}$$

$$19) \frac{v^{\frac{3}{4}} u^{\frac{13}{16}}}{v^2 u^5}$$

$$4) 6n^{\frac{25}{6}}$$

$$8) a$$

$$12) \frac{2x}{3}$$

$$16) \frac{y^{\frac{1}{6}}}{x^3}$$

$$20) u^{\frac{10}{3}} v^{\frac{7}{4}}$$