Math 8 Name_____

Module 1 Practice

Date_____

Simplify. Your answer should contain only positive exponents.

1) $4m^2n^{-2} \cdot 2m^4n^4$

2) $x \cdot 2x^{-3}y^4$

3) $xy^{-1} \cdot 3yx^4$

4) $2x^{-2}y^{-4} \cdot 2x^3y^{-1}$

5) $(4x^3y^2)^4$

6) $(3u^4v^4)^2$

7) $(4v)^{-2}$

8) $(2x^{-3}y^0)^4$

9) $\frac{2y^{-3}}{3x^{-1}y^3}$

10) $\frac{4x}{2x^3y^0}$

11) $\frac{4a^2b^2}{2a^3b^3}$

12) $\frac{3ba^{-4}}{2ab}$

13) $\frac{y^3 \cdot 2xy^2}{(2x^4y^{-1})^4}$

14) $\frac{2y \cdot 2x^{-1}y^4}{(yx^{-4})^{-3}}$

Write each number in scientific notation.

15) 0.005

16) 4320

17) 90000000

18) 0.00000014

Write each number in standard notation.

19) 4×10^{3}

20) 3×10^{9}

21) 7×10^{6}

22) 8×10^{-6}

Simplify. Write each answer in scientific notation.

23) $(3.7 \times 10^{5})(5.15 \times 10^{0})$

24) $(2 \times 10^{0})(3 \times 10^{3})$

25) $(1.75 \times 10^{-5})(9 \times 10^{2})$

26) $(1.2 \times 10^{2})(2.85 \times 10^{1})$

27) $\dfrac{4.39 \times 10^{-2}}{3.6 \times 10^{-1}}$

28) $\dfrac{1.82 \times 10^{-6}}{5 \times 10^{6}}$

29) $\dfrac{7.02 \times 10^{-4}}{5.6 \times 10^{1}}$

30) $\dfrac{4.3 \times 10^{3}}{4.6 \times 10^{0}}$

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Simplify. Your answer should contain only positive exponents.

1) $4m^2n^{-2} \cdot 2m^4n^4$

$8m^6n^2$

2) $x \cdot 2x^{-3}y^4$

$\frac{2y^4}{x^2}$

3) $xy^{-1} \cdot 3yx^4$

$3x^5$

4) $2x^{-2}y^{-4} \cdot 2x^3y^{-1}$

$\frac{4x}{y^5}$

5) $(4x^3y^2)^4$

$256x^{12}y^8$

6) $(3u^4v^4)^2$

$9u^8v^8$

7) $(4v)^{-2}$

$\frac{1}{16v^2}$

8) $(2x^{-3}y^0)^4$

$\frac{16}{x^{12}}$

9) $\frac{2y^{-3}}{3x^{-1}y^3}$

$\frac{2x}{3y^6}$

10) $\frac{4x}{2x^3y^0}$

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

11) $\frac{4a^2b^2}{2a^3b^3}$

$\frac{2}{ab}$

12) $\frac{3ba^{-4}}{2ab}$

$\frac{3}{2a^5}$

13) $\frac{y^3 \cdot 2xy^2}{(2x^4y^{-1})^4}$

$\frac{y^9}{8x^{15}}$

14) $\frac{2y \cdot 2x^{-1}y^4}{(yx^{-4})^{-3}}$

$\frac{4y^8}{x^{13}}$

Write each number in scientific notation.

15) 0.005

5×10^{-3}

16) 4320

4.32×10^{3}

17) 90000000

9×10^{7}

18) 0.00000014

1.4×10^{-7}

Write each number in standard notation.

19) 4×10^{3}

4000

20) 3×10^{9}

3000000000

21) 7×10^{6}

7000000

22) 8×10^{-6}

0.000008

Simplify. Write each answer in scientific notation.

23) $(3.7 \times 10^{5})(5.15 \times 10^{0})$

1.906×10^{6}

24) $(2 \times 10^{0})(3 \times 10^{3})$

6×10^{3}

25) $(1.75 \times 10^{-5})(9 \times 10^{2})$

1.575×10^{-2}

26) $(1.2 \times 10^{2})(2.85 \times 10^{1})$

3.42×10^{3}

27) $\dfrac{4.39 \times 10^{-2}}{3.6 \times 10^{-1}}$

1.219×10^{-1}

28) $\dfrac{1.82 \times 10^{-6}}{5 \times 10^{6}}$

3.64×10^{-13}

29) $\dfrac{7.02 \times 10^{-4}}{5.6 \times 10^{1}}$

1.254×10^{-5}

30) $\dfrac{4.3 \times 10^{3}}{4.6 \times 10^{0}}$

9.348×10^{2}