

Practice 12.1

Name(s) _____

Evaluate the expression.

1) -4^4

2) $(-4)^2$

3) $\left(\frac{1}{8}\right)^2$

Evaluate the expression with the given replacement values.

4) $\frac{2}{9x^2}$ when $x = -6$

Use the product rule to simplify. Write the results using exponents.

5) $(9p^3)(7p^9)$

6) $(5x)(3x^4)(x^3)$

Use the power rule and the power of a product or quotient rule to simplify the expression.

7) $(-3xy)^4$

8) $(-6x^3y^6z)^2$

9) $\left(\frac{2p^4v^2}{s^3}\right)^2$

Use the quotient rule to simplify the expression.

10) $\frac{f^9}{f}$

11) $\frac{(-4)^{19}}{(-4)^{17}}$

12) $\frac{42m^5n^7}{6m^4n^2}$

Simplify the expression.

13) $(-9)^0 + (-5)^0$

14) $-3y^0$

15) $(-2z^2)(3z^3)$

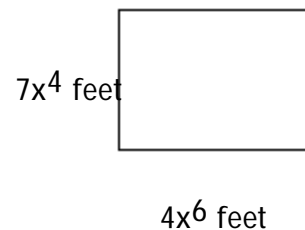
16) $(4x^6y)(-6x^6y^3)$

17) $\frac{x^{10}y^{16}}{x^4y^8}$

18) $2^2 + 2^3$

Use the product rule to simplify. Write the results using exponents.

- 19) The rectangle below has width $7x^4$ feet and length $4x^6$ feet. Find the area as an expression of x .



Answer Key

Testname: 12.1WKS

1) -256

2) -16

3) $\frac{1}{64}$

4) $\frac{1}{162}$

5) $63p^{12}$

6) $15x^8$

7) $81x^4y^4$

8) $36x^6y^{12}z^2$

9) $\frac{4p^8v^4}{s^6}$

10) f^8

11) 16

12) $7mn^5$

13) 2

14) -3

15) $-6z^5$

16) $-24x^{12}y^4$

17) x^6y^8

18) 12

19) $28x^{10}$ sq ft