

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Simplifying Exponent Expressions

1. Simplify  $(x^4)^5$

- a.  $x^{-1}$
- b.  $x^9$
- c.  $x^{10}$
- d.  $x^{20}$

2. Simplify  $(x^5)^6$

- a.  $x^{-1}$
- b.  $x^{11}$
- c.  $x^{15}$
- d.  $x^{30}$

3. Simplify  $(2r)^2$ .

- a.  $2^2 + r^2$
- b.  $4r$
- c.  $4r^2$
- d.  $16$

4. Simplify  $(-3x^3)^3$

- a.  $-9x^6$
- b.  $-27x^9$
- c.  $27x^9$
- d.  $-27x^6$

5. Simplify the expression  $b^4 \cdot b^2$ .

- a.  $b^{16}$
- b.  $b^6$
- c.  $b^2$
- d.  $b^8$

6. Simplify  $\frac{(2x)^4}{2x^4}$

- a. 8
- b. 4
- c. 2
- d. 1

7. Simplify.  $(5x^3y^2)^0$

- a.  $5x^3y^2$
- b. 1
- c. 0
- d. 5

8. Perform the indicated function and simplify your answer.

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

- a.  $27x^6y^9$
- b.  $27x^5y^6$
- c.  $9x^6y^4$
- d.  $9x^5y^6$

9. Simplify  $\frac{a-1}{(a)^2-1}$

- a.  $\frac{1}{a}$
- b.  $\frac{1}{a-1}$
- c.  $\frac{1}{1-a}$
- d.  $\frac{1}{a+1}$

10. Simplify  $(c^5)^2$

11. Simplify  $\frac{n-5}{n^2-25}$

12. Simplify  $(\sqrt{11})^2$