Simplifying Exponent Expressions Answer Key

1. Simplify $\left(x^4\right)^5$

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

2. Simplify $\left(x^5\right)^6$

   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
   $\left(-3x^3\right)^3$

   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 $\dfrac{(2x)^4}{2x^4}$

   a. 8

   b. 4

   c. 2

   d. 1

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

    a. $5x^3y^2$

    b. 1

    c. 0

    d. 5

8. Perform the indicated function and simplify your answer.

$\left(3x^2y^3\right)^3$

    a. $27x^6y^9$

    b. $27x^5y^6$

    c. $9x^6y^4$

    d. $9x^5y^6$

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

    a. $\dfrac{1}{a}$

    b. $\dfrac{1}{a-1}$

    c. $\dfrac{1}{1-a}$

    d. $\dfrac{1}{a+1}$

10. Simplify $\left(c^5\right)^2$

    c^{10}

11. Simplify

    $\dfrac{n-5}{n^2-25}$

    $1 / n+5$

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

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