

Algebra I
 10.2 Warm-Up #2
 Properties of Exponents

NAME: _____
 DATE: _____ HOUR: _____

- Evaluate.**
- | | | |
|--------------------------|------------------------|----------------------------|
| 1. $7^2 \cdot 7^3$ _____ | 2. $8^3 \cdot 8$ _____ | 3. $\frac{5^4}{5^2}$ _____ |
| 4. $\frac{6^3}{6}$ _____ | 5. $(0.5^2)^3$ _____ | 6. $(\frac{1}{2})^4$ _____ |

In 7–9, solve.

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|--|---|-----------------------------------|
| 7. $\frac{12^5}{12^2} = 12^y$
$y =$ _____ | 8. $(5 \cdot 6)^3 = x^3$
$x =$ _____ | 9. $(8^6)^2 = 8^n$
$n =$ _____ |
|--|---|-----------------------------------|

In 10–18, simplify.

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|-------------------------------------|---|---|
| 10. $(x^4)^7$ _____ | 11. $(12p^8)^2$ _____ | 12. $8a^5 \cdot 6a^3$ _____ |
| 13. $\frac{r^{15}}{r^3}$ _____ | 14. $\frac{t^{21}}{(t^7)^2}$ _____ | 15. $\frac{m^9}{m^4}$ _____ |
| 16. $\frac{(10c^3)^2}{10c^4}$ _____ | 17. $\frac{n^4 \cdot n^3}{n^2 \cdot n^2}$ _____ | 18. $(\frac{v}{3})^4 (\frac{5}{v})^2$ _____ |

over

■ SKILLS

- | | |
|---|-----------------------------|
| 1. Evaluate $3^2 \cdot 3^3$ _____ | 2. Evaluate $(3^2)^3$ _____ |
| 3. Find the value of $x^3 \cdot x^4$ when $x = 2$. _____ | |
| 4. Find the value of $(2y)^5$ when $y = -1$. _____ | |

In 5–20, simplify.

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|--|---|
| 5. $a^5 \cdot a^7$ _____ | 6. $2n \cdot n^8$ _____ |
| 7. $6t^6 \cdot 3t^2$ _____ | 8. $0.7b^3 \cdot 0.4b^9$ _____ |
| 9. $u^7 \cdot v^2 \cdot u^6 \cdot v^4$ _____ | 10. $g^5 \cdot k^3 \cdot g^8 \cdot k^9$ _____ |
| 11. $(b^6c^5)(b^2c^6)$ _____ | 12. $(w^5)^2$ _____ |
| 13. $3(h^4)^3$ _____ | 14. $(3h^4)^3$ _____ |
| 15. $(x^4)^2(x^4)^2$ _____ | 16. $(x^2)^4$ _____ |
| 17. $3x^2 \cdot 2x^3$ _____ | 18. (5^3) _____ |
| 19. $(\frac{x}{y})^5$ _____ | 20. $(\frac{a}{b})^n$ _____ |