7-1 Skills Practice

Multiplication Properties of Exponents

Lesson 7-1

Determine whether each expression is a monomial. Write *yes* or *no*. Explain.

1. 11 **Yes; 11 is a real number and an example of a constant.**

2. $a - b$ **No; this is the difference, not the product, of two variables.**

3. $\dfrac{p^2}{r^2}$ **No; this is the quotient, not the product, of two variables.**

4. y **Yes; single variables are monomials.**

5. j^3k **Yes; this is the product of two variables.**

6. $2a + 3b$ **No; this is the sum of two monomials.**

Simplify.

7. $a^2(a^3)(a^6)$ **a^{11}**

8. $x(x^2)(x^7)$ **x^{10}**

9. $(y^2z)(yz^2)$ **y^3z^3**

10. $(\ell^2k^2)(\ell^3k)$ **ℓ^5k^3**

11. $(a^2b^4)(a^2b^2)$ **a^4b^6**

12. $(cd^2)(c^3d^2)$ **c^4d^4**

13. $(2x^2)(3x^5)$ **$6x^7$**

14. $(5a^7)(4a^2)$ **$20a^9$**

15. $(4xy^3)(3x^3y^5)$ **$12x^4y^8$**

16. $(7a^5b^2)(a^2b^3)$ **$7a^7b^5$**

17. $(-5m^3)(3m^8)$ **$-15m^{11}$**

18. $(-2c^4d)(-4cd)$ **$8c^5d^2$**

19. $(10^2)^3$ **10^6 or 1,000,000**

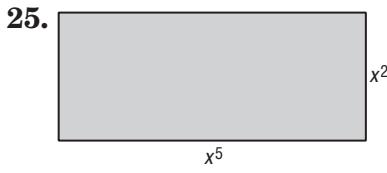20. $(p^3)^{12}$ **p^{36}**
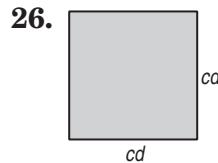
21. $(-6p)^2$ **$36p^2$**

22. $(-3y)^3$ **$-27y^3$**
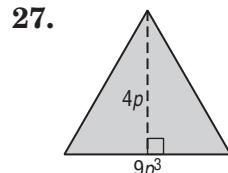
23. $(3pr^2)^2$ **$9p^2r^4$**

24. $(2b^3c^4)^2$ **$4b^6c^8$**

GEOMETRY Express the area of each figure as a monomial.

25.

x^2
x^5
x^7

26.

cd
cd
c^2d^2

27.

$4p$
$9p^3$
$18p^4$