

Multiplying Monomials

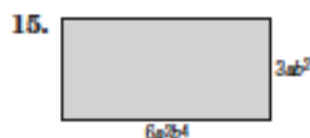
Determine whether each expression is a monomial. Write *yes* or *no*. Explain.

- $\frac{21a^2}{7b}$ **No; this involves the quotient, not the product, of variables.**
- $\frac{b^3c^2}{2}$ **Yes; this is the product of a number, $\frac{1}{2}$, and two variables.**

Simplify.

- $(-5x^2y)(3x^4)$ **$-15x^6y$**
- $(2ab^2c^2)(4a^3b^2c^2)$ **$8a^4b^4c^4$**
- $(3cd^4)(-2c^2)$ **$-6c^3d^4$**
- $(4g^3h)(-2g^5)$ **$-8g^8h$**
- $(-15xy^4)\left(-\frac{1}{3}xy^3\right)$ **$5x^2y^7$**
- $(-xy)^3(xz)$ **$-x^4y^3z$**
- $(-18m^2n)^2\left(-\frac{1}{6}mn^2\right)$ **$-54m^5n^4$**
- $(0.2a^2b^3)^2$ **$0.04a^4b^6$**
- $\left(\frac{2}{3}p\right)^2$ **$\frac{4}{9}p^2$**
- $\left(\frac{1}{4}cd^3\right)^2$ **$\frac{1}{16}c^2d^6$**
- $(0.4k^3)^3$ **$0.064k^9$**
- $[(4^2)^2]^2$ **4^8 or $65,536$**

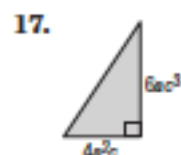
GEOMETRY Express the area of each figure as a monomial.



$18a^3b^6$

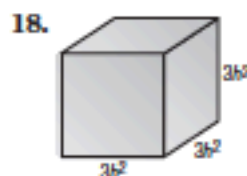


$(25x^6)\pi$



$12a^3c^4$

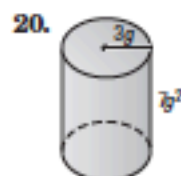
GEOMETRY Express the volume of each solid as a monomial.



$27h^6$



m^4n^5



$(63g^4)\pi$

21. **COUNTING** A panel of four light switches can be set in 2^4 ways. A panel of five light switches can set in twice this many ways. In how many ways can five light switches be set? **2^5 or 32**

22. **HOBBIES** Tawa wants to increase her rock collection by a power of three this year and then increase it again by a power of two next year. If she has 2 rocks now, how many rocks will she have after the second year? **2^6 or 64**