

Simplify each expression.

27. $(-142)^0$

28. $(4c)^{-1}$

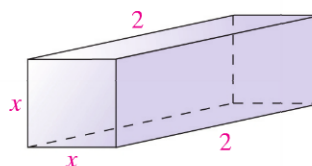
29. 7^{-w}

30. $(-3)^{-5}$

Word Problems

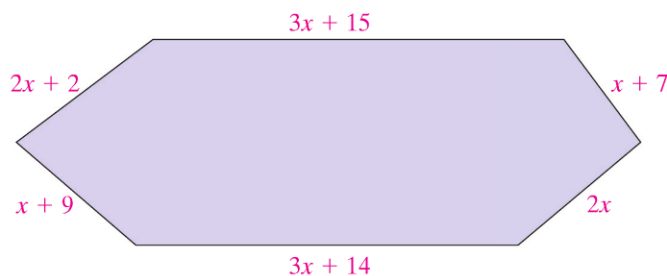
Lesson 12-1

31. **Geometry** To find the surface area of the prism shown at the right, you can use the polynomial $x^2 + 2x + 2x + 2x + 2x + x^2$. Simplify the polynomial.



Lesson 12-2

32. **City Planning** A town is planning the hexagonal park shown below. Write the perimeter of the park as a polynomial and simplify.



Lesson 12-3

33. **Biology** There are about 5×10^{10} white blood cells and about 500 times as many red blood cells in a human's bloodstream. Find the number of red blood cells. Write your answer in scientific notation.
34. **Sports** There are about 2.65×10^{32} possible ways a 30-player football team can form a line to run onto the field. When a thirty-first player is included, there will be about $31 \cdot (2.65 \times 10^{32})$ possible ways. Write this number in scientific notation.

Lesson 12-4

35. A middle school art class is painting a mural on the side of the school building. They plan to use a rectangular area that is $(3x + 5)$ ft long and $8x$ ft wide. Write an expression for the area of the completed mural.

Lesson 12-5

36. **Physics** The wavelength of red light is 0.0000076 meters. Write this number in scientific notation.