

Building Equations from Word Problems

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* Look for KEY words. Build the equation then check to see that it makes sense.

Ex. A ^C cow sleeps ^{C=7} 7 hours per day. This ⁼ is 1 hour less than twice the amount an elephant ^E sleeps.

- choose variables to represent the animals.
- Build an equation for this situation.
- How long does an elephant sleep?

a) Let $C =$ cow sleep
 $E =$ elephant sleep

$$b) \quad C = 2E - 1$$
$$7 = 2E - 1$$

$$c) \quad \begin{array}{r} 7 = 2E - 1 \\ +1 \quad \quad \quad +1 \\ \hline 8 = 2E \\ \frac{8}{2} = \frac{2E}{2} \\ \hline 4 = E \end{array}$$

Check:

$$7 = 2(4) - 1$$
$$7 = 8 - 1$$
$$7 = 7 \quad \checkmark$$

The elephant sleeps for 4 hours a day.

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