

Worked Examples

All problems on this page are of the form % of is . These can be solved with algebra.

1. What percent of 40 is 12?

 % of 40 is 12
 $x(40) = 12$
 $40x = 12$
 $x = \frac{12}{40} = \frac{3}{10} = .3 = \boxed{30\%}$

Note: This problem is equivalent to "12 is what percent of 40?"

2. Three of the 17 students in the class are special education students. What percent of the students are special education students? Round to one decimal place, if necessary.

 % of 17 is 3
 $x(17) = 3$
 $17x = 3$
 $x = \frac{3}{17}$
 $x \approx .176 = \boxed{17.6\%}$

$$\begin{array}{r} .1764 \\ 17 \overline{) 3.0000} \\ \underline{-17} \\ 130 \\ \underline{-119} \\ 110 \\ \underline{-102} \\ 80 \end{array}$$

since this digit is less than 5 we drop it when rounding off.

To change to algebra:
 • "is" becomes "="
 • "of" becomes multiply.
 • " " becomes x.

3. In 2003, there were 7 babies born in Houston with the rare H3P4 disease. This is 0.02% of all the births in Houston in 2003. How many births were there in Houston in 2003?

0.02% of is 7
 $.0002x = 7$
 $x = \frac{7}{.0002}$
 $x = \boxed{35,000 \text{ births}}$

$$\begin{array}{r} 35000. \\ .0002 \overline{) 7.0000} \\ \underline{-6} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

Move the decimal point in the divisor, .0002 to make it a whole number. Move the decimal point inside the same amount.

change the percent to a decimal

4. The football stadium has a seating capacity of 25,000. Due to the huge crowd for the Charger-Viking game, the stadium had 112% of its seating capacity. How many attended Charger-Viking game?

112% of 25000 is
 $(1.12)(25000) = x$
 $\boxed{28,000 \text{ people}} = x$

$$\begin{array}{r} 1.12 \\ \times 25000 \\ \hline 560000 \\ + 2240000 \\ \hline 28000.00 \end{array}$$

Objective: Solve percent problems of the form % of is .