

One number is seven times one-half of another number. The numbers differ by 35. What are the numbers?

Solution:

Assume one number is  $x$ , and the second number is  $y$ .

$$\begin{cases} x = \frac{7}{2}y \\ x - y = 35 \end{cases}$$

$$\begin{cases} x = \frac{7}{2}y \\ \frac{7}{2}y - y = 35 \end{cases}$$

$$\begin{cases} x = \frac{7}{2}y \\ \frac{7}{2}y - y = 35 \end{cases}$$

$$\begin{cases} x = \frac{7}{2}y \\ \frac{5}{2}y = 35 \end{cases}$$

$$\begin{cases} x = 49 \\ y = 14 \end{cases}$$

Answer: 14, 49