

TRANSLATING and SOLVING Equations

Translate	Solve
<p>1 "The product of a number and -7 is 63."</p> <p>Equation: $-7n = 63$</p>	$\begin{array}{r} -7n = 63 \\ \underline{-7 \quad -7} \\ n = -9 \end{array}$
<p>2 "10 subtracted from a number is 15."</p> <p>Equation: $n - 10 = 15$</p>	$\begin{array}{r} n - 10 = 15 \\ \underline{+10 \quad +10} \\ n = 25 \end{array}$
<p>3 "Two-fifths of a number is -12."</p> <p>Equation: $\frac{2}{5}n = -12$</p>	$\frac{5}{2} \cdot \frac{2}{5} n = -12 \cdot \frac{5}{2}$ $n = -30$
<p>4 "8% of a number is 20."</p> <p>Equation: $0.08n = 20$</p>	$\begin{array}{r} 0.08n = 20 \\ \underline{0.08 \quad 6.08} \\ n = 250 \end{array}$
<p>5 "The sum of twice a number and 17 is -1."</p> <p>Equation: $2n + 17 = -1$</p>	$\begin{array}{r} 2n + 17 = -1 \\ \underline{-17 \quad -17} \\ 2n = -18 \\ \underline{\quad \quad 2 \quad \quad 2} \\ n = -9 \end{array}$
<p>6 "Nine less than the product of a number and -4 is 35."</p> <p>Equation: $-4n - 9 = 35$</p>	$\begin{array}{r} -4n - 9 = 35 \\ \underline{+9 \quad +9} \\ -4n = 44 \\ \underline{\quad \quad -4 \quad \quad -4} \\ n = -11 \end{array}$
<p>7 "Seven more than the quotient of a number and 3 equals 11."</p> <p>Equation: $\frac{n}{3} + 7 = 11$</p>	$\begin{array}{r} \frac{n}{3} + 7 = 11 \\ \underline{-7 \quad -7} \\ 3 \cdot \frac{n}{3} = 4 \cdot 3 \\ n = 12 \end{array}$

$0.08 \cdot 250 = \frac{14}{40}$

8	"The difference between half a number and 11 is -25."	$\frac{1}{2}n - 11 = -25$ $\begin{array}{r} +11 \quad +11 \\ \hline 2 \cdot \frac{1}{2}n = -14 \cdot 2 \\ n = -28 \end{array}$
Equation:	$\frac{1}{2}n - 11 = -25$	
9	"A number subtracted from 14 is 2."	$14 - n = 2$ $\begin{array}{r} -14 \quad -14 \\ \hline -n = -12 \\ \frac{-1}{-1} \quad \frac{-1}{-1} \\ n = 12 \end{array}$
Equation:	$14 - n = 2$	
10	"Three-fourths of a number, decreased by 19, is -1."	$\frac{3}{4}n - 19 = -1$ $\begin{array}{r} +19 \quad +19 \\ \hline \frac{3}{4}n = 18 \\ \frac{4}{3} \cdot \frac{3}{4}n = 18 \cdot \frac{4}{3} \\ n = 24 \end{array}$
Equation:	$\frac{3}{4}n - 19 = -1$	
11	"The sum of negative one-third of a number and 16 is 11."	$-\frac{1}{3}n + 16 = 11$ $\begin{array}{r} -16 \quad -16 \\ \hline -\frac{1}{3}n = -5 \cdot -3 \\ \frac{-3}{-1} \cdot \frac{-1}{-1}n = -5 \cdot -3 \\ n = 15 \end{array}$
Equation:	$-\frac{1}{3}n + 16 = 11$	
12	"60 percent of a number, minus 17, is -65."	$0.6n - 17 = -65$ $\begin{array}{r} +17 \quad +17 \\ \hline 0.6n = -48 \\ \frac{0.6n}{0.6} = \frac{-48}{0.6} \quad n = 80 \end{array}$
Equation:	$0.6n - 17 = -65$	
13	"The sum of a number and 7, divided by -3, is 2."	$-3 \cdot \frac{n+7}{-3} = 2 \cdot -3$ $\begin{array}{r} n+7 = -6 \\ -7 \quad -7 \\ \hline n = -13 \end{array}$
Equation:	$\frac{n+7}{-3} = 2$	
14	"The quotient of five less than a number and 6 is -4."	$6 \cdot \frac{n-5}{6} = -4 \cdot 6$ $\begin{array}{r} n-5 = -24 \\ +5 \quad +5 \\ \hline n = -19 \end{array}$
Equation:	$\frac{n-5}{6} = -4$	
15	"A number squared increased by 5, is 41."	$n^2 + 5 = 41$ $\begin{array}{r} -5 \quad -5 \\ \hline n^2 = 36 \\ n = \pm 6 \end{array}$
Equation:	$n^2 + 5 = 41$	