

Name : key

Score : _____

Teacher : _____

Date : _____

Solve the Equations

Round your answers to the nearest hundredth if needed.

1) $-21 = -5 + 9(h - 2)$

$-21 = -5 + 9h - 18$

$-21 = -23 + 9h$
 $+23 \quad +23$

$2 = 9h$
 $\div 9 \quad \div 9$
 $h = \frac{2}{9}$

2) $-31 + 4n = -8(2n + 5)$

$-31 + 4n = -16n - 40$
 $+16n \quad +16n$

$-31 + 20n = -40$
 $+31 \quad +31$

$20n = -11$
 $\div 20 \quad \div 20$

$n = \frac{-11}{20}$

3) $-7v - 9 + 3 = -27$

$-7v - 6 = -27$
 $+6 \quad +6$

$-7v = -21$
 $\div -7 \quad \div -7 \rightarrow v = 3$

4) $-35 = 4y - 8y$

$-35 = -4y$
 $\div -4 \quad \div -4$

$y = \frac{35}{4}$

5) $-26 = 8(7b + 2)$

$-26 = 56b + 16$
 $-16 \quad -16$

$-42 = 56b$
 $\div 56 \quad \div 56$

$b = \frac{-42}{56}$
 $= \frac{-3}{4}$

6) $-6(8c - 5) = 32$

$-48c + 30 = 32$
 $-30 \quad -30$

$-48c = 2$
 $\div -48 \quad \div -48$

$c = \frac{-2}{48} = \frac{-1}{24}$

7) $4(5 + 2a) = 26$

$20 + 8a = 26$
 $-20 \quad -20$

$8a = 6$
 $\div 8 \quad \div 8$

$a = \frac{6}{8} = \frac{3}{4}$

8) $-7k + 6 - 9k = -18$

$-16k + 6 = -18$
 $-6 \quad -6$

$-16k = -24$
 $\div -16 \quad \div -16$

$k = \frac{-24}{-16} = \frac{3}{2}$

9) $9f - 8f = -33$

$f = -33$

10) $7(8d - 9) = -29 - 2d$

$56d - 63 = -29 - 2d$
 $+2d \quad +2d$

$58d - 63 = -29$
 $+63 \quad +63$

$58d = 34$
 $\div 58 \quad \div 58$

$d = \frac{34}{58}$
 $= \frac{17}{29}$

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1) $3c + 2 - 4 = 23$

$$\begin{array}{r} 3c - 2 = 23 \\ +2 \qquad +2 \end{array}$$

$$\begin{array}{r} 3c = 25 \\ \div 3 \qquad \div 3 \end{array}$$

$$c = 8.33 \text{ or } \frac{25}{3}$$

2) $7(8h - 9) = -31$

$$\begin{array}{r} 56h - 63 = -31 \\ +63 \qquad +63 \end{array}$$

$$\begin{array}{r} 56h = 32 \\ \div 56 \qquad \div 56 \end{array}$$

$$h = \frac{32}{56} = \frac{4}{7}$$

3) $-4f + 2f = -29$

$$\begin{array}{r} -2f = -29 \\ \div -2 \qquad \div -2 \end{array}$$

$$f = \frac{29}{2}$$

4) $35 = -3n + 9n$

$$\begin{array}{r} 35 = 6n \\ \div 6 \qquad \div 6 \end{array}$$

$$n = \frac{35}{6}$$

5) $-3 - 2(1 + 9d) = 15$

$$-3 - 2 - 18d = 15$$

$$\begin{array}{r} -5 - 18d = 15 \\ +5 \qquad +5 \end{array}$$

$$-18d = 20$$

$$d = \frac{-20}{18}$$

$$d = \frac{-10}{9}$$

6) $5(4v + 9) = -22 - 7v$

$$\begin{array}{r} 20v + 45 = -22 - 7v \\ -20v \qquad -20v \end{array}$$

$$\begin{array}{r} 45 = -22 - 7v \\ +22 \qquad +22 \end{array}$$

$$\begin{array}{r} 67 = -7v \\ \div -7 \qquad \div -7 \end{array}$$

$$v = \frac{-67}{27}$$

7) $28 + 8a = 2(6a + 3)$

$$\begin{array}{r} 28 + 8a = 12a + 6 \\ -8a \qquad -8a \end{array}$$

$$\begin{array}{r} 28 = 4a + 6 \\ -6 \qquad -6 \end{array}$$

$$\begin{array}{r} 22 = 4a \\ \div 4 \qquad \div 4 \end{array}$$

$$a = \frac{22}{4} = \frac{11}{2}$$

8) $29 = -4(3s + 2)$

$$\begin{array}{r} 29 = -12s - 8 \\ +8 \qquad +8 \end{array}$$

$$\begin{array}{r} 37 = -12s \\ \div -12 \qquad \div -12 \end{array}$$

$$s = \frac{-37}{12}$$

9) $20 = 5 + 3(x + 6)$

$$20 = 5 + 3x + 18$$

$$\begin{array}{r} 20 = 3x + 23 \\ -23 \qquad -23 \end{array}$$

$$\begin{array}{r} -3 = 3x \\ \div 3 \qquad \div 3 \end{array}$$

$$x = -1$$

10) $5(9 + 2y) = 34$

$$\begin{array}{r} 45 + 10y = 34 \\ -45 \qquad -45 \end{array}$$

$$\begin{array}{r} 10y = -11 \\ \div 10 \qquad \div 10 \end{array}$$

$$y = \frac{-11}{10}$$