

8th Madness  
key

$$\begin{array}{r} 7x - 4 = 20 + 3x \\ -3x + 4 \quad +4 \quad -3x \end{array}$$

$$4x = 24$$

$$x = 6$$

$$\begin{array}{r} 2x - 10 = 44 + 8x \\ -2x - 44 \quad -44 \quad -2x \end{array}$$

$$\frac{-54}{6} = \frac{6x}{6}$$

$$-9 = x$$

$$\begin{array}{r} 4(9 + 3t) - 12 = 6 \\ 36 + 12t - 12 = 6 \end{array}$$

$$\begin{array}{r} 24 + 12t = 6 \\ -24 \quad -24 \end{array}$$

$$\frac{12t}{12} = \frac{-18}{12}$$

$$t = -\frac{6}{12} = -\frac{1}{2}$$

$$(4) 9(2+w) - 4w = 3w - 10$$

$$18 + 9w - 4w = 3w - 10$$

$$\begin{array}{r} 18 + 5w = 3w - 10 \\ -18 \quad -3w = -3w \quad -18 \end{array}$$

$$2w = -28$$

$$w = -14$$

$$(5) 3 = 7(4 - 2v) - 6v$$

$$3 = 28 - 14v - 6v$$

$$\begin{array}{r} 3 = 28 - 20v \\ -28 \quad -28 \end{array}$$

$$\frac{-25}{-20} = \frac{-20v}{-20}$$

$$\frac{1}{4} = v \quad \leftarrow \frac{5}{20}$$

$$(6) \begin{array}{r} 21x + 6 = 17x - 26 \\ -17x - 6 \quad -17x \quad -6 \end{array}$$

$$4x = -32$$

$$x = -8$$

$$(7) 8(k+3) = 12k - 4$$

$$\begin{array}{r} 8k + 24 = 12k - 4 \\ -8k + 4 \quad -8k + 4 \end{array}$$

$$\frac{28}{4} = \frac{4k}{4}$$

$$7 = k$$

8

$$2(4x + 7) = 2x - 4$$

$$\begin{array}{r} 8x + 14 = 2x - 4 \\ -2x \quad -14 \quad -2x \quad -14 \end{array}$$

$$\frac{6x}{6} = \frac{-18}{6}$$

$$x = -3$$

9

$$3(-6x + 9) - 10x = 1$$

$$-18x + 27 - 10x = 1$$

$$\begin{array}{r} -28x + 27 = 1 \\ \quad -27 \quad -27 \end{array}$$

$$\begin{array}{r} -28x = -26 \\ \quad -28 \quad -28 \end{array}$$

$$x = \frac{13}{14}$$