

1.6

$$1) |m| = -6$$

*false*  
No Solution  $\emptyset$

$$3) |n| = 4$$

$n = 4, -4$

$$5) |b| = 7$$

$b = 7, -7$

$$7) (7) \frac{|x|}{7} = 5(7)$$

$|x| = 35$   
 $x = 35, -35$

$$9) \begin{array}{r} -10 + |k| = -15 \\ +10 \quad +10 \\ \hline |k| = -5 \end{array}$$

*false*  
No Solution  $\emptyset$

$$11) 10|x| + 7 = 57$$

$$\begin{array}{r} -7 \quad -7 \\ \hline \frac{10|x|}{10} = \frac{50}{10} \\ |x| = 5 \\ x = 5, -5 \end{array}$$

$$13) 10 - 5|m| = 70$$

$$\begin{array}{r} -10 \quad -10 \\ \hline -\frac{5|m|}{-5} = \frac{60}{-5} \\ |m| = -12 \end{array}$$

*false*  
No Solution  $\emptyset$

$$15) 9|x| - 4 = 5$$

$$\begin{array}{r} +4 \quad +4 \\ \hline \frac{9|x|}{9} = \frac{9}{9} \\ |x| = 1 \\ x = 1, -1 \end{array}$$

$$17) \left| \frac{n}{10} \right| = 1$$

$$(10) \frac{n}{10} = 1(10), -1(10)$$

$n = 10, -10$

$$19) |v + 10| = 2$$

$$\begin{array}{r} v + 10 = 2, \quad -2 \\ -10 \quad -10 \quad -10 \\ \hline v = -8, -12 \end{array}$$

$$21) -4 - |a - 5| = -13$$

$$\begin{array}{r} +4 \quad +4 \\ \hline \frac{-|a-5|}{-1} = \frac{-9}{-1} \\ |a - 5| = 9 \\ a - 5 = 9, \quad -9 \\ +5 \quad +5 \quad +5 \\ \hline a = 14, -4 \end{array}$$

$$23) \frac{10|-6x|}{10} = \frac{60}{10}$$

$$|-6x| = 6$$

$$-\frac{6x}{-6} = \frac{6}{-6}, \quad -\frac{6}{-6}$$

$x = -1, 1$

$$25) \frac{-7\left|\frac{n}{7}\right|}{-7} = -\frac{2}{-7}$$

$$\left| \frac{n}{7} \right| = \frac{2}{7}$$

$$(7) \frac{n}{7} = \frac{2}{7}(7), -\frac{2}{7}(7)$$

$n = 2, -2$

$$27) -8|-7 + p| - 6 = -14$$

$$\begin{array}{r} +6 \quad +6 \\ \hline \frac{-8|-7+p|}{-8} = \frac{-8}{-8} \\ |-7 + p| = 1 \\ -7 + p = 1, \quad -1 \\ +7 \quad +7 \quad +7 \\ \hline p = 8, 6 \end{array}$$

$$29) -3|7 + x| - 7 = -1$$

$$\frac{+7 \quad +7}{-3|7+x|} = \frac{6}{-3}$$

$$|7 + x| = -2$$

*false*

*No Solution*∅

$$31) |-7 - 5r| = 32$$

$$-7 - 5r = 32 \quad , \quad -32$$

$$\frac{+7 \quad +7 \quad +7}{-5r} = \frac{39}{-5}, \frac{-25}{-5}$$

$$r = -\frac{39}{5}, 5$$

$$33) |8n - 6| = 66$$

$$8n - 6 = 66 \quad , \quad -66$$

$$\frac{+6 \quad +6 \quad +6}{8n} = \frac{72}{8}, -\frac{60}{8}$$

$$n = 9, -\frac{15}{2}$$

$$35) |2v + 7| = 11$$

$$2v + 7 = 11, \quad -11$$

$$\frac{-7 \quad -7 \quad -7}{2v} = \frac{4}{2}, -\frac{18}{2}$$

$$v = 2, -9$$

$$37) \frac{9|10+6x|}{9} = \frac{72}{9}$$

$$|10 + 6x| = 8$$

$$10 + 6x = 8, \quad -8$$

$$\frac{-10 \quad -10 \quad -10}{6x} = -\frac{2}{6}, -\frac{18}{6}$$

$$x = -\frac{1}{3}, -3$$

$$39) -3 + |6 + 6k| = -45$$

$$\frac{+3 \quad +3}{|6 + 6k|} = -42$$

*false*

*No Solution*∅

$$41) |2n + 5| + 5 = 0$$

$$\frac{-5 \quad -5}{|2n + 5|} = -5$$

*false No Solution*∅

$$43) 3 - 2|5 - m| = 9$$

$$\frac{-3 \quad -3}{-2|5-m|} = \frac{6}{-2}$$

$$|5 - m| = -3$$

*false No Solution*∅

$$45) |-10x - 4| - 10 = 66$$

$$\frac{+10 \quad +10}{|-10x - 4|} = 76$$

$$-10x - 4 = 76 \quad , \quad -76$$

$$\frac{+4 \quad +4 \quad +4}{-10x} = \frac{80}{-10}, \frac{-72}{-10}$$

$$x = -8, \frac{36}{5}$$

$$47) |2 + 3x| = |4 - 2x|$$

$$2 + 3x = 4 - 2x \quad , \quad 2 + 3x = -(4 - 2x)$$

$$\frac{+2x \quad +2x}{2 + 5x} = 4 \quad \frac{2 + 3x = -4 + 2x}{-2x \quad -2x}$$

$$\frac{-2 \quad -2}{5x} = \frac{2}{5} \quad \frac{2 + x = -4}{-2 \quad -2}$$

$$x = \frac{2}{5}, -6$$

$$49) \left| \frac{2x-5}{3} \right| = \left| \frac{3x+4}{2} \right|$$

$$(6) \frac{2x-5}{3} = \frac{3x+4}{2} \quad (6) \quad , \quad \frac{2x-5}{3} = \frac{-(3x+4)}{2}$$

$$4x - 10 = 9x + 12 \quad (6) \quad \frac{2x-5}{3} = \frac{-3x-4}{2} \quad (6)$$

$$\frac{-4x \quad -4x}{-10 = 5x + 12} \quad \frac{4x - 10 = -9x - 12}{+9x \quad +9x}$$

$$\frac{-12 \quad -12}{-22 = 5x} \quad \frac{13x - 10 = -12}{+10 \quad +10}$$

$$\frac{-22}{5} = \frac{5x}{5}$$

$$-\frac{22}{5} = x$$

$$\frac{13x}{13} = -\frac{2}{13}$$

$$x = -\frac{2}{13}$$

$$x = -\frac{22}{5}, -\frac{2}{13}$$

