

## Solving Inequalities Coloring Activity

$$\textcircled{1} \quad \frac{-90}{18} \geq \frac{18x}{18}$$

$$-5 \geq x$$

$$x \leq -5 \text{ (gray)}$$

$$\textcircled{7} \quad -9(4+x) > -126$$

$$-36 - 9x > -126$$

$$+36 \qquad +36$$

$$\frac{-9x}{-9} > \frac{-90}{-9}$$

$$x < 10 \text{ (green)}$$

$$\textcircled{2} \quad 3 \cdot \frac{x}{3} > -8 \cdot 3$$

$$x > -24 \text{ (brown)}$$

$$\textcircled{8} \quad 9(x-7) < -90$$

$$9x - 63 < -90$$

$$+63 \quad +63$$

$$\frac{9x}{9} < \frac{-27}{9}$$

$$x < -3 \text{ (pink)}$$

$$\textcircled{3} \quad x - 10 < -26$$

$$+10 \quad +10$$

$$x < -16 \text{ (red)}$$

$$\textcircled{4} \quad 19 - x \geq 21$$

$$-19 \qquad -19$$

$$\frac{-x}{-1} \geq \frac{2}{-1}$$

$$-1 \qquad -1$$

$$x \leq -2 \text{ (black)}$$

$$\textcircled{9} \quad 2 \cdot 9 \geq \frac{1+x}{2} \cdot 2$$

$$18 \geq 1+x$$

$$-1 \quad -1$$

$$17 \geq x$$

$$x \leq 17 \text{ (yellow)}$$

$$\textcircled{5} \quad \frac{x}{3} + 7 > 12$$

$$-7 \quad -7$$

$$3 \cdot \frac{x}{3} > 5 \cdot 3$$

$$x > 15 \text{ (purple)}$$

$$\textcircled{10} \quad -23 < 1 - 4x - 8$$

$$-23 < -4x - 7$$

$$+7 \qquad +7$$

$$\frac{-16}{-4} < \frac{-4x}{-4}$$

$$4 > x$$

$$x < 4 \text{ (orange)}$$

$$\textcircled{6} \quad 4 \cdot \frac{-5+x}{4} > 1 \cdot 4$$

$$-5 + x > 4$$

$$+5 \qquad +5$$

$$x > 9 \text{ (blue)}$$

$$\begin{aligned} (11) \quad 0 &\geq 6x - 6x \\ 0 &\geq 0 \\ \text{(all real numbers)} &\text{ (dark green)} \end{aligned}$$

$$\begin{aligned} (12) \quad 15 &> 6x + 1 - 4 \\ 15 &> 6x - 3 \\ +3 &\quad +3 \\ \hline 18 &> 6x \\ 6 &\quad 6 \\ 3 &> x \\ x &< 3 \text{ (light green)} \end{aligned}$$

$$\begin{aligned} (13) \quad -96 &\leq 8(x - 6) \\ -96 &\leq 8x - 48 \\ +48 &\quad +48 \\ \hline -48 &\leq 8x \\ 8 &\quad 8 \\ -6 &\leq x \\ x &\geq -6 \text{ (dark blue)} \end{aligned}$$

$$\begin{aligned} (14) \quad 1 - 4(7 - 6x) &< 141 \\ 1 - 28 + 24x &< 141 \\ -27 + 24x &< 141 \\ +27 &\quad +27 \\ \hline 24x &< 168 \\ 24 &\quad 24 \\ x &< 7 \text{ (silver)} \end{aligned}$$

$$\begin{aligned} (15) \quad -134 &< 8x - 5(1 - 7x) \\ -134 &< 8x - 5 + 35x \\ -134 &< 43x - 5 \\ +5 &\quad +5 \\ \hline -129 &< 43x \\ 43 &\quad 43 \\ -3 &< x \\ x &> -3 \text{ (dark red)} \end{aligned}$$

$$\begin{aligned} (16) \quad -6 + 8(6x + 2) &< 7x + 10 \\ -6 + 48x + 16 &< 7x + 10 \\ 10 + 48x &< 7x + 10 \\ -7x &\quad -7x \\ \hline 10 + 41x &< 10 \\ -10 &\quad -10 \\ \hline 41x &< 0 \\ 41 &\quad 41 \\ x &< 0 \text{ (maroon)} \end{aligned}$$

$$\begin{aligned} (17) \quad -3 + 3x &\leq x + 2(x - 4) \\ -3 + 3x &\leq x + 2x - 8 \\ -3 + 3x &\leq 3x - 8 \\ -3x &\quad -3x \\ \hline -3 &\leq -8 \\ \text{(no solution)} &\text{ (dark brown)} \end{aligned}$$

$$(18) -22 - 4x < -(4 - 5x)$$

$$-22 - 4x < -4 + 5x$$

$$\begin{array}{r} -5x \\ \hline -22 - 4x < -4 + 5x \\ -5x \end{array}$$

$$-22 - 9x < -4$$

$$\begin{array}{r} +22 \\ \hline -22 - 9x < -4 \\ +22 \end{array}$$

$$\frac{-9x}{-9} < \frac{18}{-9}$$

$$x > -2$$

$$x > -2 \text{ (black)}$$

Name \_\_\_\_\_

**ANSWER KEY**

Date \_\_\_\_\_

**SOLVING INEQUALITIES COLORING ACTIVITY**

Directions: Solve each inequality. Circle the color of your answer choice and color the corresponding areas on the coloring sheet.

<b>1</b>	$-90 \geq 18x$	$x \leq -5$ <b>GRAY</b>	$-5 \leq x$ <b>DK GREEN</b>	$x \geq -5$ <b>RED</b>	$x < -5$ <b>GOLD</b>
<b>2</b>	$\frac{x}{3} > -8$	$x < -24$ <b>WHITE</b>	$24 > x$ <b>PURPLE</b>	$24 < x$ <b>BLUE</b>	$x > -24$ <b>BROWN</b>
<b>3</b>	$x - 10 < -26$	$-36 < x$ <b>YELLOW</b>	$-16 > x$ <b>RED</b>	$x > -16$ <b>ORANGE-RED</b>	$x < -36$ <b>LT BLUE</b>
<b>4</b>	$19 - x \geq 21$	$x \leq 2$ <b>PURPLE</b>	$x \leq -2$ <b>BLACK</b>	$-2 \leq x$ <b>SILVER</b>	$2 \leq x$ <b>AQUA</b>
<b>5</b>	$\frac{x}{3} + 7 > 12$	$x > -15$ <b>LT GREEN</b>	$x < 15$ <b>MAROON</b>	$15 < x$ <b>PURPLE</b>	$15 > x$ <b>GRAY</b>
<b>6</b>	$\frac{-5 + x}{4} > 1$	$x > 9$ <b>BLUE</b>	$x < 9$ <b>GOLD</b>	$x > -1$ <b>PURPLE</b>	$-1 > x$ <b>RED</b>
<b>7</b>	$-9(4 + x) > -126$	$10 > x$ <b>GREEN</b>	$x > 10$ <b>LT BLUE</b>	$x > -90$ <b>YELLOW</b>	$x < -90$ <b>WHITE</b>
<b>8</b>	$9(x - 7) < -90$	$x < 3$ <b>BLACK</b>	$x > -3$ <b>AQUA</b>	$x < -3$ <b>PINK</b>	$x > 3$ <b>LT PURPLE</b>
<b>9</b>	$9 \geq \frac{1 + x}{2}$	$19 \geq x$ <b>MAROON</b>	$x \leq 17$ <b>YELLOW</b>	$19 \leq x$ <b>BROWN</b>	$17 \leq x$ <b>GRAY</b>
<b>10</b>	$-23 < 1 - 4x - 8$	$x < 3.5$ <b>SILVER</b>	$3.5 < x$ <b>PURPLE</b>	$4 < x$ <b>GRAY</b>	$x < 4$ <b>ORANGE</b>
<b>11</b>	$0 \geq 6x - 6x$	$0 \geq x$ <b>GOLD</b>	<i>No Solution</i> <b>AQUA</b>	$x \geq 0$ <b>SILVER</b>	<i>All Real Numbers</i> <b>DK GREEN</b>
<b>12</b>	$15 > 6x + 1 - 4$	$x < 2$ <b>PINK</b>	$x > 2$ <b>RED</b>	$x < 3$ <b>LT GREEN</b>	$x > 3$ <b>LT BLUE</b>
<b>13</b>	$-96 \leq 8(x - 6)$	$x \leq -6$ <b>PURPLE</b>	$x \geq -6$ <b>DK BLUE</b>	$x \geq -18$ <b>YELLOW</b>	$-18 \geq x$ <b>BLACK</b>
<b>14</b>	$1 - 4(7 - 6x) < 141$	$x > 7$ <b>LT PURPLE</b>	$-7 < x$ <b>BROWN</b>	$x < 7$ <b>SILVER</b>	$-7 > x$ <b>BLUE</b>
<b>15</b>	$-134 < 8x - 5(1 - 7x)$	$x < 3$ <b>BLUE</b>	$-3 > x$ <b>WHITE</b>	$x > -3$ <b>DK RED</b>	$3 < x$ <b>PINK</b>
<b>16</b>	$-6 + 8(6x + 2) < 7x + 10$	$x < 0$ <b>MAROON</b>	<i>No Solution</i> <b>ORANGE-RED</b>	<i>All Numbers</i> <b>GREEN</b>	$x > 0$ <b>SILVER</b>
<b>17</b>	$-3 + 3x \leq x + 2(x - 4)$	$x < 0$ <b>BLUE</b>	$x > 0$ <b>DK GREEN</b>	<i>All Numbers</i> <b>LT BLUE</b>	<i>No Solution</i> <b>DK BROWN</b>
<b>18</b>	$-22 - 4x < -(4 - 5x)$	$-2 < x$ <b>BLACK</b>	$2 < x$ <b>PINK</b>	$x < 2$ <b>LT PURPLE</b>	$x < -2$ <b>RED</b>