

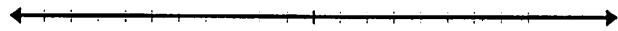
Name _____ Date _____ Period _____



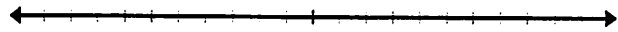
COMPOUND INEQUALITIES WORKSHEET

Solve each inequality and graph its solution.

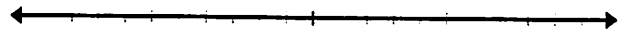
2. $-5 \leq 3 - 2x < 11$



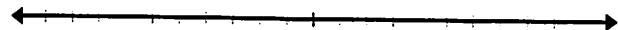
4. $2r + 8 > 16 - 2r$ and $7r + 21 < r - 9$



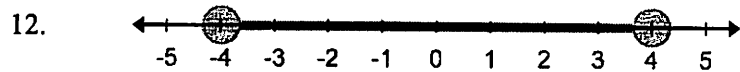
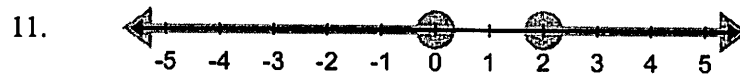
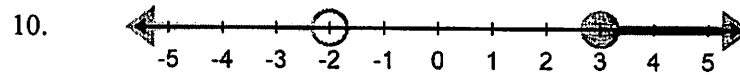
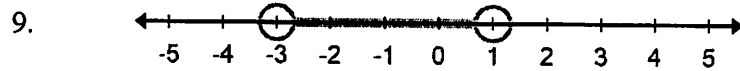
6. $4m - 5 > 7$ or $4m - 5 < -9$



8. $6 - c > c$ or $3c - 1 < c + 13$



Write a compound inequality for each solution set shown below.



Create a compound inequality for the following word problems.

13. Nine less than a number is no more than 8 and is no less than 3.

14. The sum of four times a number and eight is between zero and twelve.

15. One half a number increased by three is greater than zero or less than or equal to negative three.

16. Each type of fish thrives in a specific range of temperatures. The optimum temperatures for sharks range from 18 degrees Celsius to 22 degrees Celsius. Write an inequality that represents the temperatures where sharks will NOT thrive.

17. About 20% of the time you sleep is spent in rapid eye movement (REM) sleep, which is associated with dreaming. If an adult sleeps 7 to 8 hours, how much time is spent in REM sleep?

18. A store is offering a \$30 mail in rebate on all color printers. Luis is looking at different color printers that range in price from \$175 to \$260. How much can he expect to spend after the rebate?



COMPOUND INEQUALITIES WORKSHEET

Name _____ Date _____ Period _____

Solve each inequality and graph its solution.

2. $-5 \leq 3 - 2x < 11$

$$\begin{array}{r} -2 \\ -2 \\ \hline -8 \end{array} \leq -2x < \begin{array}{r} -2 \\ -2 \\ \hline -8 \end{array}$$

$42x > -4$

4. $2r + 8 > 16 - 2r$ and $7r + 21 < r - 9$

$$\begin{array}{r} 4r > 8 \\ \hline 4r > 8 \end{array} \quad \text{and} \quad \begin{array}{r} 6r < 30 \\ \hline 6r < 30 \end{array}$$

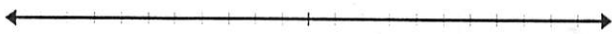
6. $4m - 5 > 7$ or $4m - 5 < -9$

$$\begin{array}{r} 4m > 12 \\ \hline 4m > 12 \end{array} \quad \text{or} \quad \begin{array}{r} 4m < -4 \\ \hline 4m < -4 \end{array}$$

8. $6 - c > c$ or $3c - 1 < c + 13$



$-4 \bar{x} < 4$



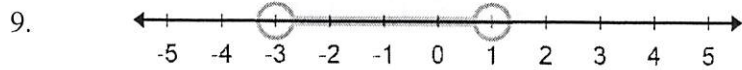
$\{r \mid r \in \emptyset\}$



$m < -1$ or $m > 7$

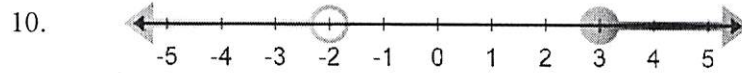


Write a compound inequality for each solution set shown below.



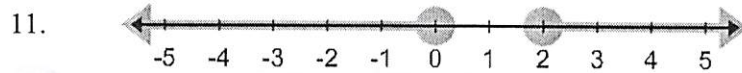
$$-3 < x < 1$$

$$(-3, 1)$$



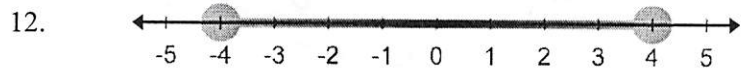
$$x < -2 \text{ or } x \geq 3$$

$$(-\infty, -2) \cup [3, \infty)$$



$$x \leq 0 \text{ or } x \geq 2$$

$$(-\infty, 0] \text{ or } [2, \infty)$$



$$-4 \leq x \leq 4$$

$$[-4, 4]$$

Create a compound inequality for the following word problems.

13. Nine less than a number is no more than 8 and is no less than 3.

$$3 \leq x - 9 \leq 8$$

14. The sum of four times a number and eight is between zero and twelve.

$$0 < 4x + 8 < 12$$

15. One half a number increased by three is greater than zero or less than or equal to negative three.

$$\frac{1}{2}x + 3 > 0 \text{ or } \frac{1}{2}x + 3 \leq -3$$

16. Each type of fish thrives in a specific range of temperatures. The optimum temperatures for sharks range from 18 degrees Celsius to 22 degrees Celsius. Write an inequality that represents the temperatures where sharks will NOT thrive.

$$x < 18 \text{ or } x > 22$$

17. About 20% of the time you sleep is spent in rapid eye movement (REM) sleep, which is associated with dreaming. If an adult sleeps 7 to 8 hours, how much time is spent in REM sleep?

~~REM sleep is 20% of total sleep~~

$$7 < 5h < 8$$

Let h = hours in sleep

$$\rightarrow 1.4 < h < 1.6$$

18. A store is offering a \$30 mail in rebate on all color printers. Luis is looking at different color printers that range in price from \$175 to \$260. How much can he expect to spend after the rebate?

$$175 < p + 30 < 260$$

Let p = price of printer after rebate

$$145 < p < 230$$