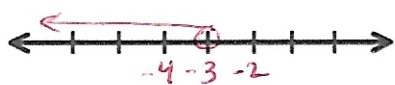


Algebra Review (5.1-5.3)

Solve each inequality. Then, graph the solution set on a number line.

1. $p - 4 < -7$

$$\begin{array}{r} +4 \quad +4 \\ p - 4 < -7 \\ \hline p < -3 \end{array}$$



3. $g + 11 > -16$

$$\begin{array}{r} -11 \quad -11 \\ g + 11 > -16 \\ \hline g > -27 \end{array}$$



5. $12n \leq -18$

$$\begin{array}{r} \frac{12}{12} \quad \frac{12}{12} \\ 12n \leq -18 \\ \hline n \leq -1.5 \end{array}$$



2. $29 \geq y + 7$

$$\begin{array}{r} -7 \quad -7 \\ 29 \geq y + 7 \\ \hline 22 \geq y \Rightarrow y \leq 22 \end{array}$$



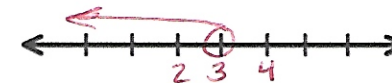
4. $4\left(\frac{5}{3}\right)\frac{3}{5}y \leq 30 \left(\frac{-5}{3}\right)$

$$y \geq -50$$



6. $-12m > -360$

$$\begin{array}{r} \frac{-12}{-12} \quad \frac{-12}{-12} \\ -12m > -360 \\ \hline m < 3 \end{array}$$



Write an inequality to represent each of the following statements. (You do NOT have to solve them!)

7. The quotient of a number and 12 is at least negative 22.

$$\frac{n}{12} \geq -22$$

8. The product of 3 and a number increased by 12 is no more than 17.

$$3n + 12 \leq 17$$

9. 12 less than a number is fewer than 25.

$$n - 12 < 25$$

10. Three-fifths of a number minus 12 is at most 100.

$$\frac{3}{5}n - 12 \leq 100$$

11. The sum of a number and 10 cannot exceed the product of the same number and 3.

$$n + 10 \leq 3n$$

12. The difference of 12 and a number is more than negative 50.

$$12 - n > -50$$

13. 100 is no less than the sum of a number and 12.

$$100 \geq n + 12$$

Solve each inequality.

14. $4 > -11 - 3t$

$$\frac{15}{-3} > \frac{-3t}{-3}$$

$$-5 < t \Rightarrow \boxed{t > -5}$$

17. $6c + 3(2 - c) \geq -2c + 1$

$$6c + 6 - 3c \geq -2c + 1$$

$$3c + 6 \geq -2c + 1$$

$$5c + 6 \geq 1$$

$$\frac{5c}{5} \geq \frac{-5}{5} \Rightarrow \boxed{c \geq -1}$$

15. $12x + 5 \geq 17x - 10$

$$12x + 15 \geq 17x$$

$$\frac{15}{5} \geq \frac{5x}{5}$$

$$3 \geq x \Rightarrow \boxed{x \leq 3}$$

18. $2x - 1 > 7$

$$\frac{2x}{2} > \frac{8}{2}$$

$$\boxed{x > 4}$$

16. $-3 \leq \frac{2}{3}r + 9$

$$\frac{-9}{\frac{3}{2}} \leq \frac{\frac{2}{3}r}{\frac{3}{2}} + \frac{18}{\frac{3}{2}}$$

$$\frac{3}{2} \cdot -12 \leq \frac{2}{3}r \cdot \frac{3}{2} + 12$$

$$-18 \leq r \Rightarrow \boxed{r \geq -18}$$

19. $3t - 2(t - 1) \geq 5t - 4(2 + t)$

$$3t - 2t + 2 \geq 5t - 8 - 4t$$

$$\frac{t}{-t} + 2 \geq \frac{t}{-t} - 8$$

$$2 \geq -8 \leftarrow \text{Always True}$$

$$\boxed{\{t \mid t \text{ is a real number}\}}$$

20. Adriana has a budget of \$115 for faxes. The fax service she uses charges \$25 to activate an account and \$0.08 per page to send faxes.

$p = \# \text{ of pages}$

- A. Write an inequality to represent how many pages Adriana can fax to stay within her budget.

$$25 + .08p \leq 115$$

- B. How many pages can Adriana fax? Solve the inequality from part (a).

$$25 + .08p \leq 115$$

$$.08p \leq 90$$

$$p \leq 1125$$

She can fax

no more than
1,125 pages.

21. Write the following inequality in set-builder notation: $t < 14$

$$\{t \mid t < 14\}$$