

2.8.109

Solve the inequality and express the solution set in set-builder notation and interval notation, if possible. Graph the solution set on a real number line.

$$\frac{x}{8} \geq 1 - \frac{x}{16}$$

Express the solution set in set-builder notation. Select the correct choice below and fill in any answer boxes in your choice.

☒ A. The solution set is $\left\{x \mid x \geq \frac{16}{3}\right\}$.

(Use integers or fractions for any numbers in the expression.)

☐ B. The solution is all real numbers.

☐ C. The solution is the empty set.

Express the solution in interval notation. Select the correct choice below and fill in any answer boxes in your choice.

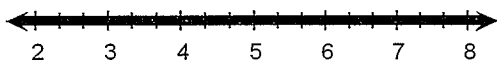
☒ A. The solution set is $\left[\frac{16}{3}, \infty\right)$.

(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

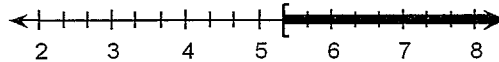
☐ B. The solution is the empty set.

Choose the graph of the inequality below.

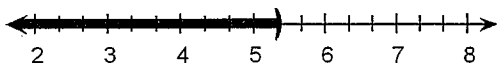
☐ A.



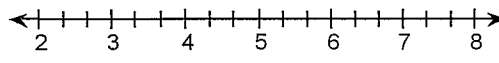
☒ B.



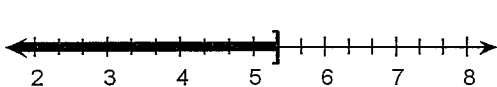
☐ C.



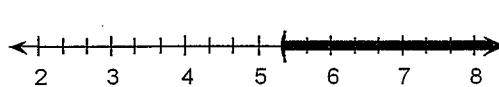
☐ D.



☐ E.



☐ F.



YOU ANSWERED: A, $x \geq \frac{18}{3}$

~~$\frac{2}{16} \frac{x}{8} \geq 1 - \frac{x}{16}$~~

B

~~$\frac{x}{16} \geq 1 - \frac{x}{16}$~~

Clear fractions
by mult all by
LCD = 16

$2x \geq 16 - x$
 $+x \quad +x$

Reduce fractions

$\frac{16}{8} = 2$ and $\frac{16}{16} = 1$

$\frac{3x}{3} \geq \frac{16}{3}$

multiply, then isolate x.

$x \geq \frac{16}{3}$

2.8.111

Solve the inequality and express the solution set in set-builder notation and interval notation, if possible. Graph the solution set on a real number line.

$$\frac{x+8}{4} + 7 > \frac{x+2}{3} + 6$$

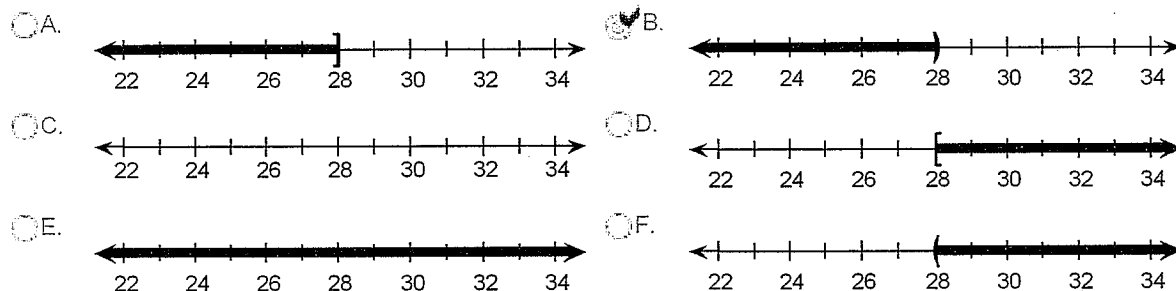
Express the solution set in set-builder notation. Select the correct choice below and fill in any answer boxes in your choice.

- ☒ A. The solution set is $\{x \mid x < 28\}$.
(Use integers or fractions for any numbers in the expression.)
- ☐ B. The solution is all real numbers.
- ☐ C. The solution is the empty set.

Express the solution in interval notation. Select the correct choice below and fill in any answer boxes in your choice.

- ☒ A. The solution set is $(-\infty, 28)$.
(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)
- ☐ B. The solution is the empty set.

Choose the graph of the inequality below.



YOU ANSWERED: A, $x < 13$

$$\frac{3}{\cancel{4}} \cdot \frac{x+8}{\cancel{4}} + 7 \cdot \frac{12}{\cancel{4}} > \frac{4}{\cancel{3}} \cdot \frac{x+2}{\cancel{3}} + 6 \cdot \frac{12}{\cancel{3}}$$

$$\frac{x+2}{\cancel{3}} \cdot \frac{4}{\cancel{3}} + 6 \cdot \frac{12}{\cancel{3}}$$

Clear fractions by mult all by LCD = 12

$$3(x+8) + 84 > 4(x+2) + 72$$

$$3x + 24 + 84 > 4x + 8 + 72$$

$$\begin{array}{r} 3x + 108 > 4x + 80 \\ -3x & -3x \end{array}$$

$$28 > x$$

Rewrite:

$$x < 28$$

Reduce fractions
 $\frac{12}{4} = 3$ and $\frac{12}{3} = 4$
Distribute
Isolate x.