Algebra I Keystone Quiz

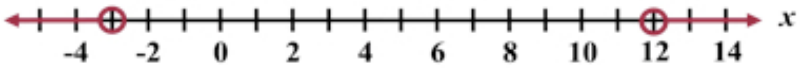
Linear Inequalities - (A1.1.3.1.1) Compound Inequalities, (A1.1.3.1.2) Solve Linear Inequalities, (A1.1.3.1.3) Interpret Solutions To Inequalities

Student Name: _____ Date: _____

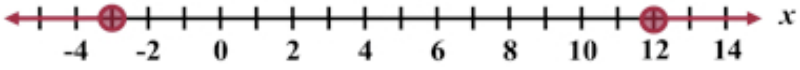
Teacher Name: Jared George Score: _____

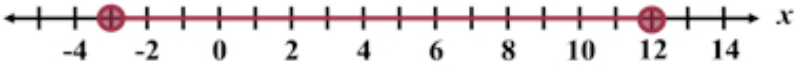
1) Which graph shows the solution to the inequality?

$|2x - 9| < 15$

A) 

B) 

C) 

D) 

2) Solve the inequality.

$|3x + 2| + 1 > 5$

A) $x < -2$

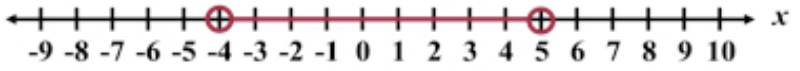
B) $x > \frac{2}{3}$

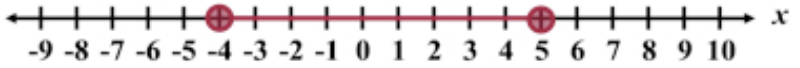
C) $x < -2$ or $x > \frac{2}{3}$

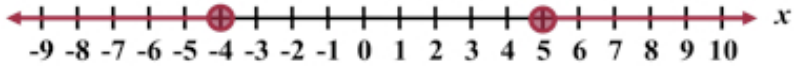
D) $x > -2$ or $x < \frac{2}{3}$

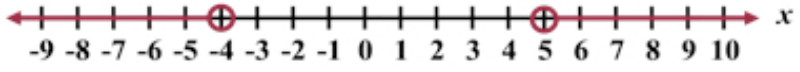
3) Which graph shows the solution to the inequality?

$|2x - 1| > 9$

A) 

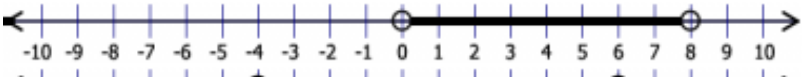
B) 

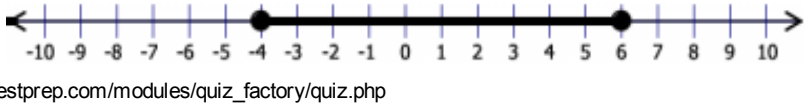
C) 

D) 

4) Which graph represents the solution set for the inequality shown here?

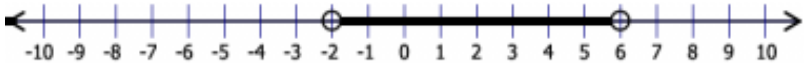
$|4x - 8| \geq 16$

A) 

B) 

C)

D)



5) Solve the inequality.

$$|x + 7| + 5 \leq 2$$

A) $-10 \leq x \leq -4$

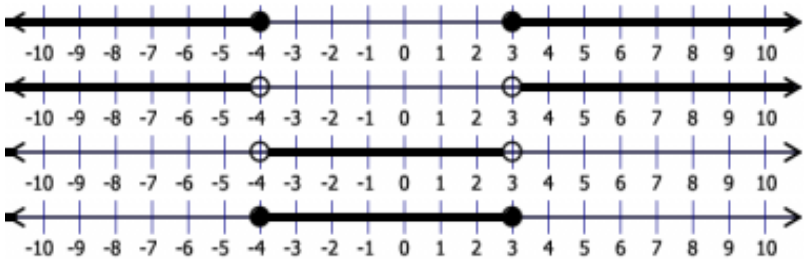
B) $-14 \leq x \leq -10$

C) $x \leq -10$ or $x \geq -4$

D) no solution

6) Solve and graph the compound inequality.

$$5x - 5 \geq 10 \text{ or } -3x + 1 \geq 13$$

A)


B)

C)

D)

7) Solve the absolute value inequality and choose the solution from the number lines shown.

$$|x - 2| \leq 1$$

A)


B)


C)


D)


8) Solve the inequality.

$$4x + 1 < 8x - 3 < 4x + 5$$

A) $2 < x < 1$
B) $1 < x < 2$
C) $1 < x < -2$
D) $\frac{1}{2} < x < 2$

9) Solve the absolute value inequality and choose the solution from the number lines shown.

$$|2x - 9| \leq 1$$

A)


B)


C)


D)


10) Solve the inequality.

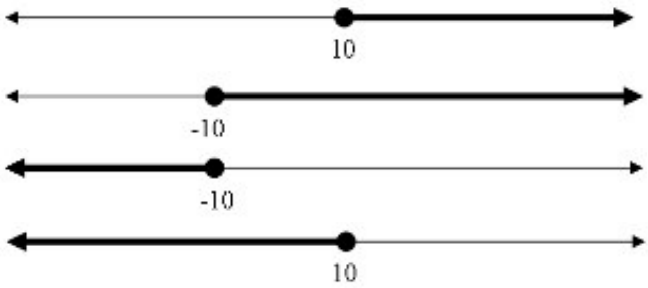
$$4|x + 5| - 2 \leq 10$$

A) $-8 \leq x \leq -2$
B) $3 \leq x \leq 8$
C) $x \leq -8$ or $x \geq -2$
D) $x \leq -8$

11) Choose the graph which represents the solution to the inequality.

$$3 - 2x \geq -17$$

A)



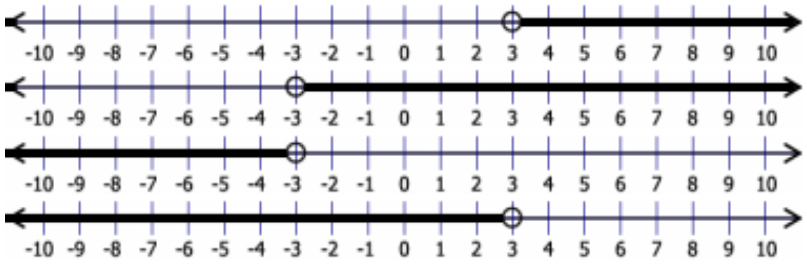
B)

C)

D)

12) Choose the graph which represents the solution to the inequality:

$-x - 3 < 0$

A)


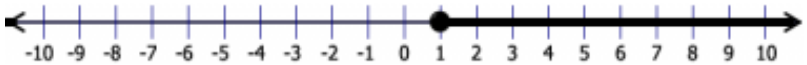
B)

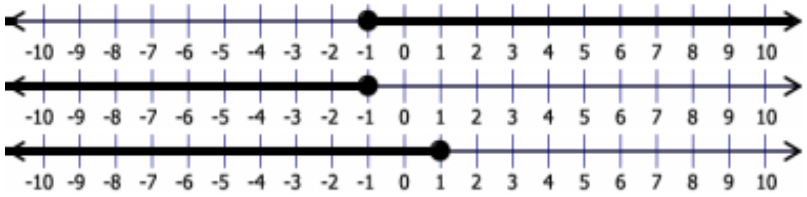
C)

D)

13) Choose the graph which represents the solution to the inequality:

$12 - 4x \geq 8$

A)


B)


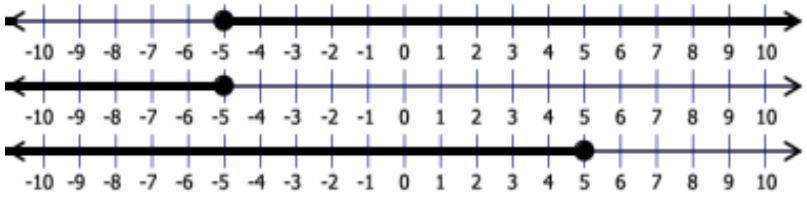
C)

D)

14) Choose the graph which represents the solution to the inequality:

$5 \leq -5 + 2x$

A)

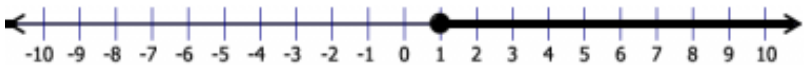

B)


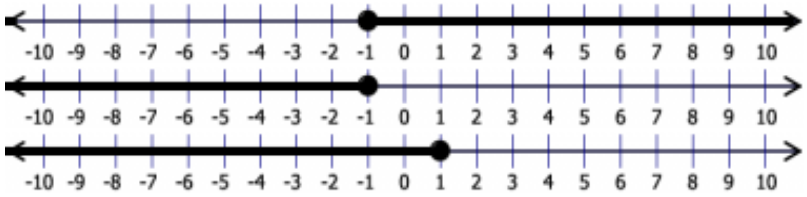
C)

D)

15) Choose the graph which represents the solution to the inequality:

$3x + 8 \geq 11$

A)


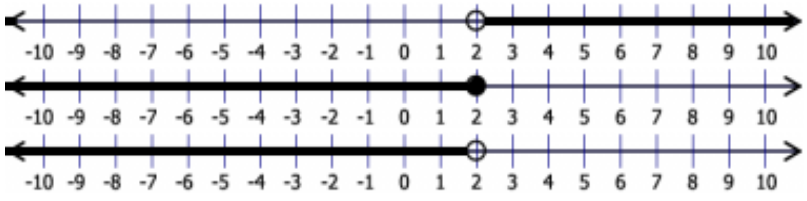
B)


C)

D)

16) Solve $4+x > 6$. Graph the solution.

A)


B)


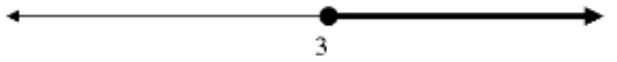
C)

D)

17) Choose the graph which represents the solution to the inequality:

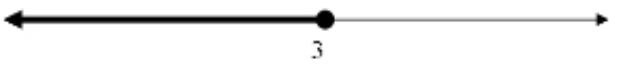
$-2x + 5 \leq 11$

A)

B) 

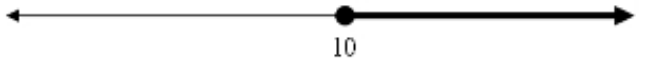
C) 

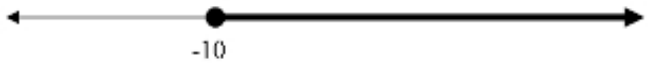
D) 

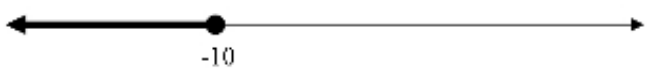


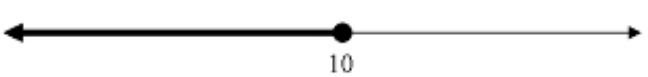
18) Choose the graph which represents the solution to the inequality:

$$\frac{1}{2}x + 8 \leq 3$$

A) 

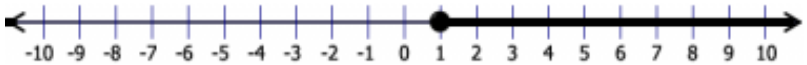
B) 

C) 

D) 

19) Choose the graph which represents the solution to the inequality.

$12x + 4 \leq -8$

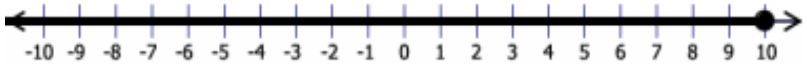
A)


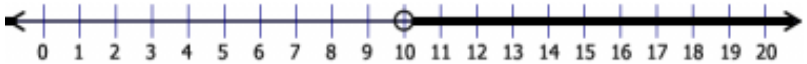
B)

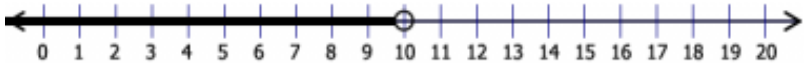

C)

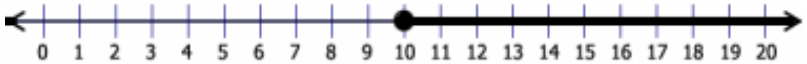

D)


20) Which graph displays the solution to $-x + 2 < -8$?

A)


B)


C)


D)


21) Two sisters, Allie and Bonnie are saving money for a trip to Europe. Allie has $1500 and adds $500 each month to this amount. Bonnie has $2300 and adds $400 each month to this amount. How many months must Allie save to exceed the amount of money that Bonnie has saved?

A) 6 months
B) 7 months
C) 8 months
D) 9 months

22) Francis has five more dollars than Julia. Together they have at most $45. Let x represent the amount of money Francis has. Which inequality can be used to find the possible amounts of money that Francis has?

A) $x - 5 \leq 45$
B) $2x - 5 \leq 45$
C) $2x - 5 \geq 45$
D) $2x + 5 \leq 45$

23) Zoey needs at least $30 to buy a gift. She has $12. Which inequality could Zoey use to find out how much more money (m) she needs?

A) $12 \leq 30 + m$
B) $12 \geq 30 + m$
C) $30 \leq 12 + m$
D) $30 \geq 12 + m$

24) Billy charges $15 to mow a yard. He needs at least $200 for the new bicycle that he wants. Write and solve an inequality to find out how many yards must he mow to make at least $200?

A) 11 yards
B) 12 yards
C) 13 yards
D) 14 yards

25)

Option 1: $30 an hour plus a non-refundable deposit of $50.
Option 2: $20 an hour plus a non-refundable deposit of $75.

Kyle is renting a jetski for the day. If he can rent the jetski in 1-hour increments, what is the minimum number of hours must he rent

the jetski for option 2 to be a better deal than option 1?

A) 2 hours
B) 3 hours
C) 4 hours
D) 5 hours

26) Kate is allowed to work no more than 20 hours a week. She has already worked 13 hours this week. At most, how many more hours CAN she work? Write an inequality and solve.

A) $x + 13 \leq 20; x \leq 7$
B) $x + 13 \geq 20; x \geq 7$
C) $x + 13 < 20; x < 7$
D) $x + 13 > 20; x > 7$

27) A bike rental company charges $50 for the first hour, and $25 for each additional hour. Michael must spend no more than $200 on his bike rental for the day. What is the maximum number of hours that Michael can rent a bike?

A) 3 hours
B) 4 hours
C) 5 hours
D) 7 hours

28) Oliver needs to save at least $1500 to buy a computer. He has already saved $650. How much more does he need to save? Write and solve an inequality.

A) $x + 650 \geq 1500; x \geq 850$
B) $x + 650 \leq 1500; x \leq 850$
C) $x + 1500 \leq 650; x \leq -850$
D) $x + 1500 \geq 650; x \geq -850$

29) In order to make an A on her project, Sarah needs at least 160 points. She has already turned in part of her work and has been given 125 point so far. Write and solve an inequality that models this situation and find out how many points Sarah needs on the last part of her project to get an A.

A) at least 35 points
B) at least 45 points
C) less than 35 points
D) less than 45 points

30) Jacob needs less than 5 C's on his transcript to qualify for UGA. He already has 1 C. At most, how many more C's can he get and still be able to go to UGA? Write an inequality and solve.

A) $x + 1 \leq 5; x \leq 4$
B) $x + 1 \geq 5; x \geq 4$
C) $x + 1 < 5; x < 4$
D) $x + 1 > 5; x > 4$