

Choose the number that is a solution of the inequality.

- 1) $a - 2 < -14$ 1) _____
 A) -8 B) 13 C) -10 D) -13
- 2) $-7n + 1 \leq -8n - 9$ 2) _____
 A) -10 B) -8 C) -9 D) -7

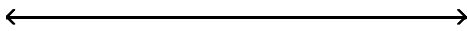
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve. Then graph. Write the solution set using both set-builder notation and interval notation.

3) $a + 6 < 8$ 3) _____



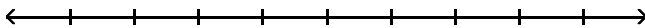
4) $y + 7 < 16$ 4) _____



5) $\frac{a}{-3} < 6$ 5) _____



6) $\frac{3x + 7}{7} < 13$ 6) _____



Solve.

7) $4(3w + 4) \geq 4(2w + 12)$ Put your answer in interval notation. 7) _____

8) $-5(3y - 6) < -20y + 25$ Put your answer in interval notation. 8) _____

9) $-7(x - 6) - 1x < -3(2x - 5) - 3x$ Put your answer in interval notation. 9) _____

10) $3 - \left(\frac{3}{2}x - 3\right) > \frac{1}{2}(x + 5)$ Put your answer in set-builder notation. 10) _____

Solve the inequality.

11) A salesperson has two job offers. Company A offers a weekly salary of \$180 plus commission of 6% of sales. Company B offers a weekly salary of \$360 plus commission of 3% of sales. What is the amount of sales above which Company A's offer is the better of the two? 11) _____

12) A car rental company has two rental rates. Rate 1 is \$36 per day plus \$.12 per mile. Rate 2 is \$72 per day plus \$.06 per mile. If you plan to rent for one week, how many miles would you need to drive to pay less by taking Rate 2? 12) _____

13) The equation $y = 0.002x + 0.40$ can be used to determine the approximate profit, y in dollars, of producing x items. How many items must be produced so the profit will be at least \$3765?

13) _____

Solve the equation.

14) $|x| = 9$

14) _____

15) $|r - 6| = 9$

15) _____

16) $|6m + 7| + 9 = 17$

16) _____

17) $|x| = -15$

17) _____

18) $4|4x - 5| - 8 = -6$ Round your answer to the nearest hundredth.

18) _____

19) $|2s + 5| = |s - 1|$

19) _____

20) $|4s + 4| = |s - 7|$

20) _____

Solve the absolute-value inequality.

21) $|x| \leq 19$

21) _____

22) $|g - 1| < 4$

22) _____

23) $|8x + 9| < 8$

23) _____

24) $|x| \leq 12$

24) _____

25) $|g + 2| < 5$

25) _____

26) $|5x + 8| < 5$

26) _____

27) $|4y - 2| - 8 < -15$

27) _____

28) $|x| > 2$

28) _____

29) $|r + 9| > 5$

29) _____

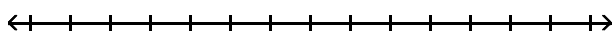
30) $|b - 2| - 4 > 12$

30) _____

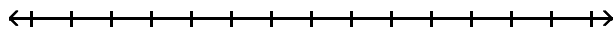
Solve and graph.

31) $|x| \leq 3$

31) _____



32) $|x| < 4$



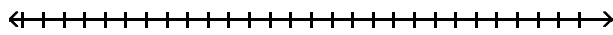
32) _____

33) $|x + 4| < 13$

33) _____

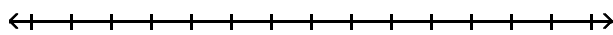
34) $|x| + 1 \leq 8$

34) _____



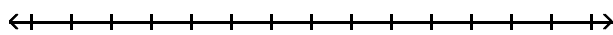
35) $|x| \leq 2$

35) _____



36) $|x| < 2$

36) _____

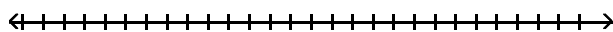


37) $|x - 3| < 17$

37) _____

38) $|x| + 6 \leq 14$

38) _____



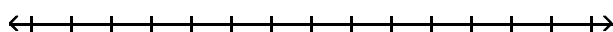
39) $|x + 2| + 9 \leq 12$

39) _____



40) $|x| \geq 2$

40) _____

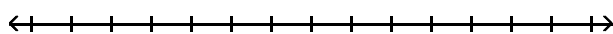


41) $|x - 12| > 3$

41) _____

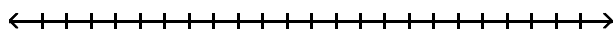
42) $|7k + 8| > -4$

42) _____



43) $\left| \frac{3y + 12}{4} \right| > 3$

43) _____



Choose the ordered pair which is a solution of the inequality.

44) $2x + 3y < 5$

A) (2, 2)

B) (1, 1)

C) $\left(\frac{1}{2}, \frac{1}{2}\right)$

D) (3, 2)

44) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Graph on a plane.

45) $x - y > -3$

45) _____

46) $x + y < -4$

46) _____

Choose the ordered pair which is a solution of the inequality.

47) $2x - 4y < 6$

A) (3, -1)

B) (0, -2)

C) (2, -2)

D) (-1, 1)

47) _____

48) $2x + 4y > 8$

A) (2, 1)

B) (0, 0)

C) (2, 2)

D) (0, 1)

48) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Graph on a plane.

49) $x \geq 4$

49) _____

50) $y < -1$

50) _____

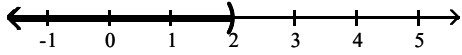
Answer Key

Testname: CH4 NMC

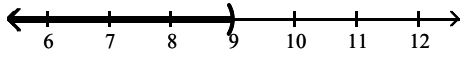
1) D

2) A

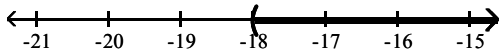
3) $\{a \mid a < 2\}, (-\infty, 2)$



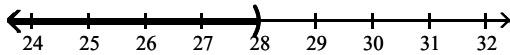
4) $\{a \mid a < 9\}, (-\infty, 9)$



5) $\{b \mid b > -18\}, (-18, \infty)$



6) $\{x \mid x < 28\}, (-\infty, 28)$



7) $[8, \infty)$

8) $(-\infty, -1)$

9) $(-\infty, -27)$

10) $\left\{x \mid x < \frac{7}{4}\right\}$

11) \$6000

12) more than 4200 miles

13) $x \geq 1,882,300$

14) $\{-9, 9\}$

15) $\{-3, 15\}$

16) $\left\{\frac{1}{6}, -\frac{5}{2}\right\}$

17) \emptyset

18) $\{1.13, 1.38\}$

19) $\left\{-6, -\frac{4}{3}\right\}$

20) $\left\{-\frac{11}{3}, \frac{3}{5}\right\}$

21) $\{x \mid -19 \leq x \leq 19\},$ or $[-19, 19]$

22) $\{g \mid -3 < x < 5\},$ or $(-3, 5)$

23) $\left\{x \mid -\frac{17}{8} < x < -\frac{1}{8}\right\},$ or $\left(-\frac{17}{8}, -\frac{1}{8}\right)$

24) $\{x \mid -12 \leq x \leq 12\},$ or $[-12, 12]$

25) $\{g \mid -7 < x < 3\},$ or $(-7, 3)$

26) $\left\{x \mid -\frac{13}{5} < x < -\frac{3}{5}\right\},$ or $\left(-\frac{13}{5}, -\frac{3}{5}\right)$

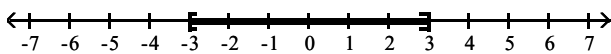
27) \emptyset

28) $\{x \mid x < -2 \text{ or } x > 2\},$ or $(-\infty, -2) \cup (2, \infty)$

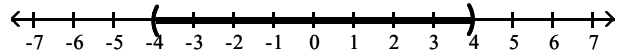
29) $\{t \mid r < -14 \text{ or } r > -4\},$ or $(-\infty, -14) \cup (-4, \infty)$

30) $\{b \mid b < -14 \text{ or } b > 18\},$ or $(-\infty, -14) \cup (18, \infty)$

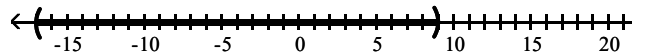
31) $\{x \mid -3 \leq x \leq 3\},$ or $[-3, 3]$



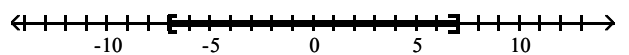
32) $\{x \mid -4 < x < 4\},$ or $(-4, 4)$



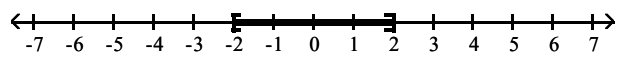
33) $\{x \mid -17 < x < 9\},$ or $(-17, 9)$



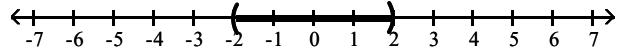
34) $\{x \mid -7 \leq x \leq 7\},$ or $[-7, 7]$



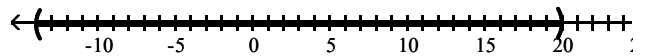
35) $\{x \mid -2 \leq x \leq 2\},$ or $[-2, 2]$



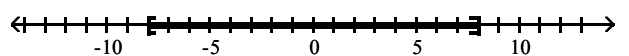
36) $\{x \mid -2 < x < 2\},$ or $(-2, 2)$



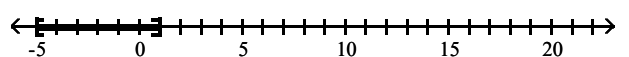
37) $\{x \mid -14 < x < 20\},$ or $(-14, 20)$



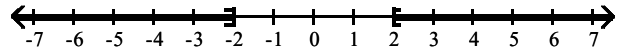
38) $\{x \mid -8 \leq x \leq 8\},$ or $[-8, 8]$



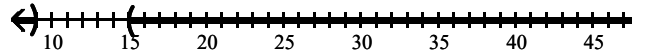
39) $\{x \mid -5 \leq x \leq 1\},$ or $[-5, 1]$



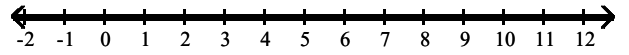
40) $\{x \mid x \leq -2 \text{ or } x \geq 2\},$ or $(-\infty, -2] \cup [2, \infty)$



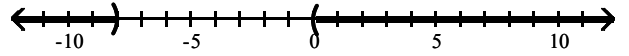
41) $\{x \mid x < 9 \text{ or } x > 15\},$ or $(-\infty, 9) \cup (15, \infty)$



42) $\mathcal{R},$ or $(-\infty, \infty)$



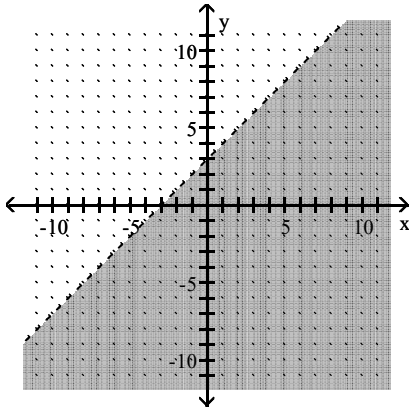
43) $\{y \mid y < -8 \text{ or } y > 0\},$ or $(-\infty, -8) \cup (0, \infty)$



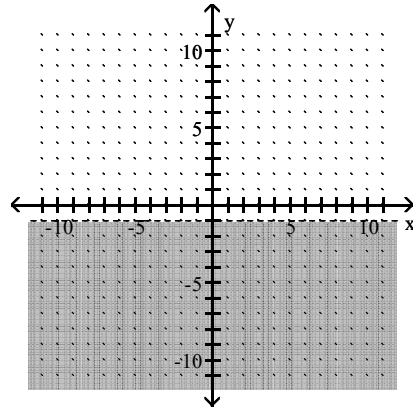
44) C

Answer Key
Testname: CH4 NMC

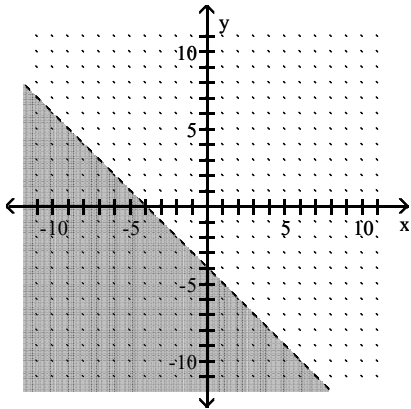
45)



50)



46)



47) D

48) C

49)

