Alg Name_____

Sem1 PRACTICE Test 2 (Equations & Inequalities) Date_____ Period____

Solve each equation.

1) $x + -7 = -7$

2) $-2 = -6 - b$

3) $-3 = n - (-6)$

4) $-50 = 10x$

5) $\frac{k}{8} = -3$

6) $4 + 2p = -10$

7) $10 = \frac{v}{2} + 5$

8) $-1 = \frac{x - 4}{9}$

9) $4(n + 4) = 12$

10) $-2n - 3n = 10$

11) $2 - a - 4a = -8$

12) $-9 = -5a - 3 + 4$

13) $-50 = -2x - 3(3x + 2)$

14) $4(8b - 3) - 3(b - 7) = 38$

15) $6 + 3p = p - 4$

16) $1 + 6b - 3 = 5b - 8$

17) $2(x + 1) = -(-3x - 3)$

18) $3(x - 4) + 3x = 3(x + 1)$

19) $-\frac{2}{6} = \frac{4}{k}$

20) $\frac{a + 5}{a} = -\frac{4}{2}$

21) $\frac{m - 8}{4} = \frac{m + 3}{6}$

22) $-\frac{11}{12} = \frac{4}{3} + \frac{3}{2}p$

23) $|n - 10| = -5$

24) $|x + 4| = 11$

25) $\left|\frac{n}{2}\right| - 9 = -4$

26) $-2|k + 10| - 10 = -32$

Solve each problem. Round your answer to 1 decimal.

27) 64 is what percent of 107?

28) What is 54% of 12?

29) Three bags of yellow onions costs $2. How many bags of yellow onions can you buy for $8?

30) A frame is 4 in tall and 3 in wide. If it is enlarged to a height of 12 in, then how wide will it be?

Solve each equation for the indicated variable.

31) $u = x + k - y$, for x

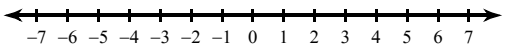
32) $\frac{m}{x} = \frac{p}{n}$, for x

33) $z = y + \frac{m}{x}$, for x

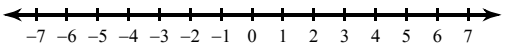
34) $3c - 4x = -2$, for x

Draw a graph for each inequality.

35) $a > 4$

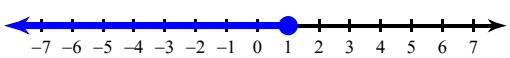


36) $-5 \geq m$

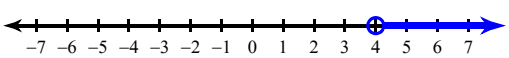


Write an inequality for each graph.

37)

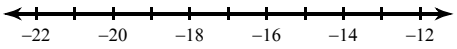


38)

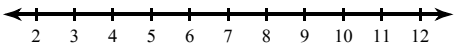


Solve each inequality and graph its solution.

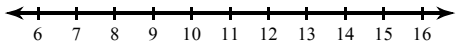
39) $19 + m \geq 2$



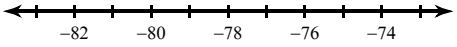
40) $13 > r - (-7)$



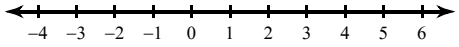
41) $-3x \geq -24$



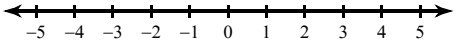
42) $\frac{r}{9} < -9$



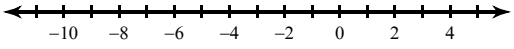
43) $3(3 + 3n) < 36$



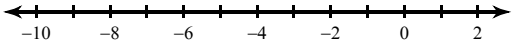
44) $-42 \leq -3(2 + 3m) - 3m$



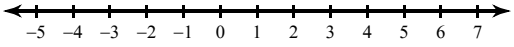
45) $-20 < 2v < 4$



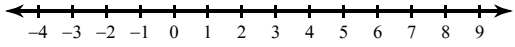
46) $3 < -3x \leq 15$



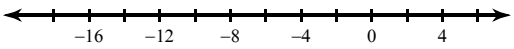
47) $-9 \leq 6 + 5n < 31$



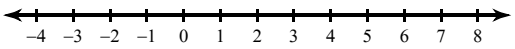
48) $6p - 9 < -9$ or $-4p + 9 < -7$



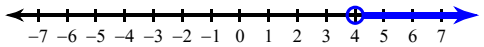
49) $|a + 7| < 11$

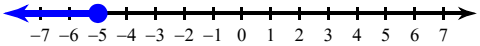


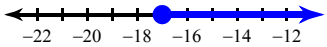
50) $5|-7x| < 70$

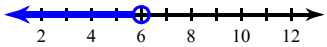


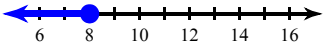
Answers to Sem1 PRACTICE Test 2 (Equations & Inequalities)

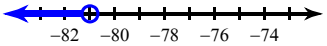
1) $\{0\}$
2) $\{-4\}$
3) $\{-9\}$
4) $\{-5\}$
5) $\{-24\}$
6) $\{-7\}$
7) $\{10\}$
8) $\{-5\}$
9) $\{-1\}$
10) $\{-2\}$
11) $\{2\}$
12) $\{2\}$
13) $\{4\}$
14) $\{1\}$
15) $\{-5\}$
16) $\{-6\}$
17) $\{-1\}$
18) $\{5\}$
19) $\{-12\}$
20) $\left\{-\frac{5}{3}\right\}$
21) $\{30\}$
22) $\{-\frac{3}{2}\}$
23) No solution.
24) $\{7, -15\}$
25) $\{10, -10\}$
26) $\{1, -21\}$
27) 59.8%
28) 6.5
29) 12
30) 9 in
31) $x = u - k + y$
32) $x = \frac{mn}{p}$
33) $x = \frac{m}{z - y}$ or $\frac{m}{-y + z}$
34) $x = \frac{3c + 2}{4}$ or $\frac{2 + 3c}{4}$
35) 

36) 

37) $m \le 1$
38) $b > 4$
39) $m \ge -17$: 

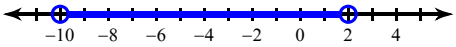
40) $r < 6$: 

41) $x \le 8$: 

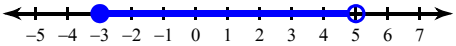
42) $r < -81$: 

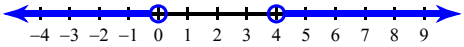
43) $n < 3$: 

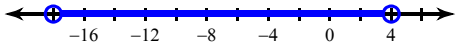
44) $m \le 3$: 

45) $-10 < v < 2$: 

46) $-5 \le x < -1$: 

47) $-3 \le n < 5$: 

48) $p < 0$ or $p > 4$: 

49) $-18 < a < 4$: 

50) $-2 < x < 2$: